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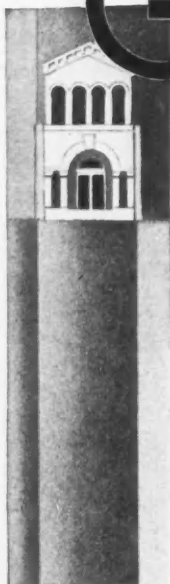
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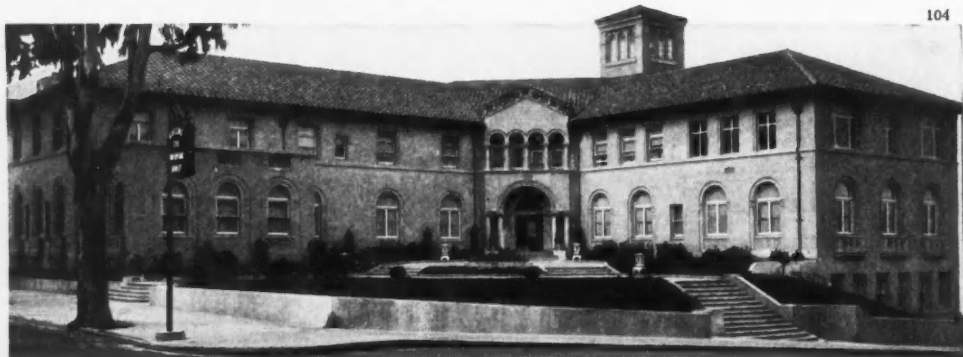
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JUNIUS BRAINARD HARRIS
President, California Medical Association
1931-1932

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VOLUME XXXVI

MAY, 1932

No. 5

ACTIVITIES OF THE CALIFORNIA MEDICAL ASSOCIATION DURING 1931*

ADDRESS OF THE RETIRING PRESIDENT

By JUNIUS B. HARRIS, M. D.
Sacramento

DR. NICHOLAS MURRAY BUTLER, when asked a few months ago for a forecast of the year, said: "1932 will be a poor year for sonorous platitudes." In these strenuous and troublous days we all subscribe to the wisdom of this remark. Any enthusiasm of utterance on the part of your speaker must not be taken as opposition to the learned doctor's suggestion.

Reviewing the activities of the California Medical Association over the past year there appear certain noteworthy achievements in different departments which are here recognized and briefly commented upon. A résumé of these activities includes first, that of Medical Legislation.

MEDICAL LEGISLATION

There are eighty-five anti-science organizations in California. Pseudomedical cults and sects are yearly turning out hordes of graduates. The State Board of Medical Examiners almost daily learns of a new variety of drugless healer. In many parts of our state the irregulars outnumber the legitimate nonsectarian medical men. With these conditions existing it is not to be wondered at that regulatory laws inimical to the medical profession and public health are proposed on the floors of our state legislature. To combat the adoption of these pernicious measures is a part of the function of the Legislative Committee. Some of our membership have become disturbed at our legislative activities, harboring the unjustified fear that our active participation in the procedures of law-making is harmful to the ethics and dignity of our profession. While there is no desire on the part of any member of your Legislative Committee to emulate the uninspiring figure of the medical man who descends to the level of a ward politician, we should all clearly realize that unless with broad and unselfish vision we pattern the laws that affect our profession we will have recorded in the statute books and made for us by visionary zealots or crafty political manipulators regulatory measures incompatible with the regular practice of medicine in our state. Whatever natural antagonism we may have for this phase of our government, the subject of law making must manifestly be faced. Our duty to the public is to continue to act for them in our capacity as

citizens with special training to advise in the making of new legislation for the benefit of public health. There are medical men who believe that once introduced into the legislature there is nothing to prevent the passage of a law opposed to the best interests of medicine and public health. Many believe that political expediency alone decides the fate of all proposed legislation. Our conquest is one of education of senators and assemblymen. Were political expediency alone considered they could see only the five thousand or more votes that would register for or against them, but they look upon our Association as advisors with special training and in most part they vote on the merits of the measure before them; but whether a legislator is an open-minded, well-informed individual of the purest ideals or a self seeking leader of an ably financed group of professional exploiters he understands and responds to activity. The unified action of the membership of a compact, cohesive, fully organized Association under alert, forceful and understanding leadership can pattern the future laws relating to medical practice and public health. Noxious medical laws and sectarian interests cannot be put down by complacency, passive interest or negligent indifference. Eighty years ago Virchow said: "Should medicine ever fulfill its great end it must enter into the larger political and social life of our times."

LEGAL DEPARTMENT

The Legal Department, which has for many years been so ably administered by Mr. Hartley Peart of San Francisco and Mr. Hubert Morrow of Los Angeles, has during the year had more than usual matters come up before it. There have been the usual number of threats of cases and cases actually filed and our Legal Department was 100 per cent successful in all cases. Both Mr. Peart and Mr. Morrow have held many interviews and consultations with members of our Association where they were able to avert suits and bring the patient or his attorney into a proper understanding of the situation.

Other than this the Legal Department has devoted a great deal of its time this year in assisting in the organization of the Public Relations Department and in meetings of various committees to it related, and it has been called upon to inform, advise and counsel in relation to the operation of clinics, hospital associations, and county hospitals. There is no association where its Legal Department has made as comprehensive and exhaustive a study of the county hospital situation and laws relating to county hospitals and care of the needy indigent as has ours.

* President's address, sixty-first annual session of the California Medical Association, May 2-5, 1932, at Pasadena.

Several years ago Mr. Peart made a suggestion that could well be put forth at this time; that the American Medical Association be requested through its Legal Department to furnish to each State Association one or two complete digests of all cases against doctors; that such digests be furnished to State Associations only. And a further suggestion, although it means a tremendous amount of work for an already hard working Legal Department, is a compilation for the members of the California Medical Association of all of the laws, Federal and State, pertaining to the practice of medicine, including the rulings of various boards and commissions, suggestions as to procedures, etc. It is something that would have to be done with considerable care and would mean a great deal of effort; but once done it would aid our members very considerably. It would give them an understanding of the narcotic regulations and laws regarding postmortem examinations, Industrial Accident Commission procedures and numerous other vital matters in which doctors should be guided.

CALIFORNIA STATE MEDICAL LIBRARY

First proposed in 1928 by the editor of CALIFORNIA AND WESTERN MEDICINE, the ground work for a plan for a State Medical Library was worked out. A bill was proposed in the 1929 legislature which would establish such a library. At that session, however, considerable opposition developed and the proposed act died in Legislative Committee. When the Forty-ninth California Legislature convened in 1931 a new Library Bill, modeled somewhat after its predecessor, was presented. After a stormy voyage through the legislative channels it finally was passed and signed by the Governor, after which its constitutionality was attacked first by the Department of Finance, then by the Department of Professional Standards in separate actions. The Attorney General, however, ruled in our favor and ordered the designated funds transferred to the regents of the University of California. This initial payment has been made, and as the years go on the value and the bigness of the capacity for service which this State Medical Library, with its major branches at San Francisco and Los Angeles, will render the members of the medical profession and indirectly the people of California will be more and more realized by all citizens. The reward of achievement in bringing into being this splendid state institution causes us to already forget the trials and tribulations incident to handling its legislation. The author of this measure which is now on our statute books can be justly proud of contributing the year's outstanding advance in graduate medical education, the creating of an enduring evidence of his broad visioned and whole-hearted interest in his fellows.

DEPARTMENT OF INSTITUTIONS

In 1921 the Department of Institutions of the State of California was created and a director named thereof. With the exception of a temporary appointment held by one of the superintendents of a state hospital no physician has

held office of director until Governor Rolph conferred a definite honor upon our profession and established a policy for better custodial care of the state's charges when he appointed Dr. Joseph M. Toner of San Francisco as Director of Institutions.

Shortly after assuming office, Doctor Toner asked that our Association appoint an advisory group for his department. This was done. Seven men outstanding as psychiatrists, neurologists or hospital executives are now serving Doctor Toner in an advisory capacity.

It is the aim of this committee to raise and maintain at the highest level the standards in the state hospitals and custodial institutions. It is the duty of the Advisory Committee to give careful consideration to names and qualifications of the applicants for the position of superintendent of these institutions. If the superintendent of an institution is a well educated physician, progressive, a student and leader, experienced in psychiatry and with executive ability, it is safe to conclude that not only will the hospital be successfully conducted, but the entire medical staff will be raised to higher standards, operating primarily for the welfare of the patients and also in the interests of the taxpayers who provide funds for the carrying on of various institutional activities.

Those charged with administering the institutions of the United States repeatedly comment upon the increasing difficulty in securing qualified physicians for the staffs of the various institutions for mental patients. While there continues to be a disinclination upon the part of the young physician to become interested in institutional psychiatry as a career, the trend is toward more attractive hospital service by reason of better remuneration in respect to salaries and quarters, more modern diagnostic and treatment facilities, extra institutional activities and opportunities for serious research. As these improvements become more extensively supplemented by a reasonable stability in appointment and by opportunities for advancement, also by better facilities and methods in medical school psychiatric teaching, it is expected that the mental hospital service will become more attractive to the ambitious young physician. The Department of Institutions is making every effort to stimulate interest in the members of the medical staffs of the institutions to belong to and attend medical societies, regular and special, to which his associates on the outside usually belong.

Efforts are being made by the California Department of Institutions to induce the medical profession at large to become more interested in its problems and in a higher type of dynamic psychiatry, the first step being in establishing a neuropathological laboratory for psychiatric research. The following procedures have been adopted by Dr. J. M. Toner since his incumbency as Director of Institutions:

1. Training of attendant personnel by devising a curriculum entailing a series of twenty lectures to be given by the officers of the institutions.

2. Postgraduate course for nurses desirous of making a specialty of psychiatric nursing.
3. Proper organization of medical staffs.
4. Obtaining of advice and counseling with the State Medical Association in regard to appointment to the medical staff.
5. The establishment of a neuropathological laboratory for psychiatric research in conjunction with the University of California Medical School in San Francisco.
6. Plan to properly apply scientific medicine in relieving mental illness, thereby reducing the congestion in the state hospitals.

CANCER COMMISSION

The creation of the Cancer Commission of the California Medical Association is one of the distinct advances of the year. Through the formation of this commission our Association has definitely entered the field of cancer control with energy and financial support that has not heretofore been accorded any similar work. This commission is of the unanimous opinion that its first work should be the collection and codification of the most advanced work and opinion on the diagnosis and treatment of malignant disease. The policy of the commission is first to get under way a drive of professional education. All other aspects of the problem of cancer control are definitely put into the future until this work could be established. Excellent work has already been done in the state surveys of the various fields of cancer. After the first steps of their program are completed the commission will come to the development of public education and a program of clinical development. About three hundred members of our Association are actively co-operating with this commission. Never has a similar movement been given heartier approval or such statewide response. One of the factors tending to bring about this universal spirit of enthusiasm is the fact that our commission is strictly a California controlled body. There is a distinct feeling that the California Medical Association should undertake and be responsible for the activities of cancer control in California and a definite feeling of gratification among the members interested in this work that our State Association is to do this work rather than have it done for us by an outside agency. Our Cancer Commission will initiate its own program. The Association strongly feels that this important work of cancer control should be carried on and that they alone will be responsible for it. If the activities of this commission stimulate among the physicians and the public a wider interest in early diagnosis and treatment of cancer the time, energy and money will be well expended.

DEPARTMENT OF PUBLIC RELATIONS

At the Annual Session of the California Medical Association in 1931 the House of Delegates passed a resolution directing the Council to take the necessary steps to create a Department of Public Relations. The Council appointed a committee to study the matter of formation of this

department and directed the committee to report back to the Council not later than September, 1931. At this September Council meeting following the report and recommendation of the special committee a Department of Public Relations was organized by the Council consisting of the following standing committees of the California Medical Association: Public Policy and Legislation, Health and Public Instruction, Medical Economics, Hospital Dispensaries and Clinics, and the Cancer Commission. At the head of this department there was to be appointed a man known as the Director of the Department of Public Relations. The duties of the director were laid down by the original resolution and by the Council. There was also created an advisory committee known as the Committee of Public Relations to consist of the chairmen of the aforesaid committees and the president, the president-elect and the secretary of the California Medical Association. It was a difficult matter for the committee appointed for the purpose of selecting a properly qualified physician for this position, to procure a suitable director. Fortunately, after making an extensive survey of qualified physicians in our own state and considering names of many eastern physicians applying for the office, Dr. Walter M. Dickie consented to accept the position and serve until the meeting of the House of Delegates at the 1932 session. Dr. Dickie well represents the type of man necessary to carry out the manifold requirements of this position. The creation of the Department of Public Relations is the most important administrative step of the year. The responsibilities of this department are great and become heavier and more important daily. Much depends upon the judgment, experience and foresight of the director. To bring this department up to its greatest capacity for good requires hearty 100 per cent coöperation and support given it by the members of our Association. We should afford the director earnest assistance and vigorous backing in his decisions, giving him fully sufficient authority that he may advance his work without undue restrictions. The eyes of the entire organization are upon this director. Let us give generous and ardent support to him in his solution of the weighty problems which confront his office.

MEDICAL HISTORY

It is gratifying to note the advent of several outstanding works on California medical history written by members of our Association. The appearance of these books has stirred up a vast amount of interest in this alluring and important subject in different parts of our state. Let us take advantage of the impetus thus given to the pursuit of the study of our state medical history. Let us organize an historical section in each of our county units selecting from each society men who are interested in this work and best fitted to carry it on. This must be done at once so that there may be preserved all of the record of achievement, all of the color and romance that went with the practice of medicine in the early days of our Golden State.

1127 Eleventh Street.

CORRECTION OF LOSSES AND DEFORMITIES OF THE EXTERNAL NOSE, INCLUDING THOSE ASSOCIATED WITH HARELIP*

By V. P. BLAIR, M. D.
St. Louis, Missouri

NASAL abnormalities occur in a wide variety of forms and from a great many different causes. The somewhat prevalent idea that reconstructive surgery of the nose consists mainly of removing "humps" or filling in depressions is not justified if one considers the whole field of surgical indications that occur in a series of patients of any great number.

Gross defects require a great amount of work for the surgeon and disability for the patient, but an acceptable repair can usually be retained. On the other hand, the small or fancied defect, that is much larger in the patient's mind than in reality, may be extremely difficult of correction and bring continued unhappiness to the patient.^{1, 2, 3}

The surgical correction of these defects assumes a position of importance along with the correction of practically any other physical defect of the body. A nasal defect is often a real center of attraction, and, if too much attention is called to it, may be a serious handicap to education, normal social contacts, making a livelihood, and

even to the general health. All of these undesirable features may also occur in some patients who become obsessed with the idea that something is wrong with the shape of their noses, when there is actually little or no point in any surgical correction.

The diagnosis of the defect at hand and the evolution of a working plan for the surgical correction of nasal defects are of great importance. It is necessary to determine what parts are lost or displaced, and what tissues are available with which to make the repair. Accurate photographic records and impressions (plaster or wax) of the defect should be made and studied, and, if necessary, the repair should be carried out on the model and measurements made and patterns cut from these.

NASAL DEFORMITIES ASSOCIATED WITH CLEFT LIP AND PALATE

One of the worst, and perhaps the least mentioned, severe nasal deformities is that associated with cleft lips and palates. The deformity has been described previously^{4, 5} and the essential points are shown in Figure 1-A.

In the original operation there should be sufficient mobilization of the soft parts so that there may be fixation of the tissues with a correct level of the ala and with the formation of an adequate floor of the nostril. With these two objects fulfilled there will almost necessarily be correction of the deviation of the whole nose and columella (Fig. 1-B).



Fig. 1—(a)



Fig. 1—(b)

(a) The distortion of the nose in a single harelip may be extreme, and the correction of it is a most important step in the repair operation. The following description of the defect is taken from an earlier publication.⁴

"1. The ala is stretched into almost a straight band across the wide open bony cleft and the floor of the nostril is difficult to identify."

"2. The base of the columella lies obliquely, lower on the cleft side."

"3. The outer part of the lining of the vestibule has been displaced downward and inward."

"4. The vertical distance between the point of the ala and the vermillion border on the cleft side may be shorter than on the opposite side and, therefore, the mouth slit has an obliquity which is the reverse of that of the columella."

"5. Though it may not be in evidence, usually enough tissue to make the nostril floor will be found lying below the base of the columella on the cleft side. This is usually supplemented by using all or part of a small triangle between lines of incision on the outer side of cleft."

"There is always some distortion of the lower lateral cartilage in almost every lip cleft; it is greater in proportion to the extent and width of the cleft and becomes accentuated with growth in the uncorrected case. The damaged cartilage slumps caudally, more so in its median than its outer part. As the skin of the tip and ala is closely adherent to the cartilage that side of the tip and ala will be correspondingly flattened. No attempt to restore the contour of the nose will be successful that does not correct the distortion and displacement of this lower lateral cartilage."

(b) This patient 2½ years later (photograph unretouched) has an almost normal appearance although, as always, defects can be found and measured. There was such marked deformity at the columella with slumping of the lower lateral cartilage that a triangle was taken out just above the border of the ala. A faint scar of this procedure can be seen.



Fig. 2-(a)



Fig. 2-(b)

SECONDARY CORRECTION OF NASAL DEFORMITIES
ASSOCIATED WITH HARELIP AND
CLEFT PALATE

If there has been no early correction of a harelip or if the correction has not restored a good nasal contour, there will occur a deformity that becomes worse and more solidly fixed with the growth of the face (Figs. 2-A and C). This deformity is perhaps the worst, when there has been an early forceful closure and wiring of the spread maxillae. The surgical correction necessitates an extensive procedure with complete freeing and rotating the nostrils into position. If there are not sufficient or properly placed teeth to maintain a normal profile of the soft parts, a dental prosthesis may be necessary (Figs. 2-B, D, and E).

"Saddle Nose" (Cartilage Transplantation).—Depression of the bridge of the nose may occur

from injury, septal abscess formation, following resection of the septum, and from destruction of the septum (and mucous lining) by specific disease.

In developing a plan for correction it must be decided (a) if there has been a loss of lining that needs replacing; (b) if the frontal processes of the maxilla require narrowing or removal; (c) if any prominence of the nasal bones themselves needs removal; and (d) if the tip of the nose, columella, or upper lip need advancing.⁸ The close study of wax or plaster casts, and the preliminary preparation of patterns for the transplant is probably a necessary step if the best results are to be obtained (Fig. 3).

For the transplant, autogenous fresh cartilage is used exclusively because it is thought that this is the safest material (Fig. 8).



Fig. 2-(c)



Fig. 2-(d)



Fig. 2-(e)

(a) and (c). Show marked distortion of the nose of many years' duration. Note that there is not much deviation of the bony nose. This may be due to the fact that the alar attachment to the cheek has been located high. The main deformity is the excess, separation, and slumping down of the lower lateral cartilages, both right and left.

(b) and (e). Unretouched photographs taken after two reconstructive operations and a dental restoration. The first one corrected the lip and vermillion border, and the nostril was rotated into fair position by splitting the columella throughout its length. This gave the correction shown in (d). The lip is retruded because there are no teeth behind it.

At the second operation the lip was partly opened, the covering of the nose was freed halfway up and turned up as a flap, by an incision clear across the alae and tip. The lower lateral cartilages were reduced in size and sutured symmetrically. The lip is held forward by a dental prosthesis.



Fig. 3—(a)

Fig. 3—(b)

(a) Markedly flattened and widened nose, the result of a fracture. The plan of correction was determined on a plaster cast, and patterns for the size and shape of the transplant were cut in lead from sections of the modeling clay used in building up the defect.

(b) Unretouched photo taken one month after operation. A section of the seventh costal cartilage was removed, and an extra piece was planted under the skin of the epigastric region for later use if necessary. The piece for transplanting was cut to the shape of the lead patterns previously determined.

An incision was made on the inside of the right nostril about two millimeters from the border. From here the entire covering of the nose was freed from the dorsum. The nose was narrowed by freeing the frontal processes from the maxillae with a chisel. The transplant was inserted through this opening, and held in place with two mattress sutures on each side through the covering and the deeper tissue of the nose. A light pressure dressing was applied to the nose and face for forty-eight hours, after lightly filling the nostrils with rubber tubes through the inferior meati and vaseline gauze above.



Fig. 4—(a)

Fig. 4—(b)

(a) Marked dorsal prominence on a girl with otherwise small pleasant features. This was thought to have been the result of an early fracture, although there was no very definite evidence of it.

(b) Unretouched photograph after removal of the prominence, done with a chisel introduced through an incision just inside the right nostril. The frontal processes of the maxillae were loosened and the nose narrowed at the same time.

"Hump Nose."—The aquiline nose may occur fittingly as a family or racial characteristic and should rarely require correction. However, if a marked dorsal prominence occurs on a small girl's or woman's nose, it is an unnecessary absurdity. The removal of a dorsal prominence is usually simple, and it affords such marked improvement in appearance that there is seldom any reason for not carrying out the correction (Fig. 4).



Fig. 5—(a)



Fig. 5—(b)

(a) Shows clean healing of tip of nose following an automobile accident.

(b) Unretouched photograph taken two months later. The covering, ala and columella have been reconstructed with a delayed forehead flap. This full covering is thought to give a better appearance than attempting to make a small repair of the tip alone.

The pedicle has been returned to the forehead and the defect covered with a thick split graft. Ten days postoperative.



Fig. 6—(a)



Fig. 6—(b)

(a) and (c). Defect of full thickness of nose following the use of a cancer paste.

(b) and (d). Unretouched photographs taken four months after operation.

The lining of the defect was made from small delayed flaps surrounding the defect. The wide area of covering supplied was made to obtain normal contour.

The pedicle was returned to the forehead, and the defect covered with a thick split graft.

Here again careful preliminary study should be done, preferably with a cast. It is frequently impossible otherwise to determine whether or not it will be necessary to move in or remove part of the nasal processes.

If there is a high prominence and a depression lower down, it may work out so that the resected prominence may be transplanted into the depression.

PARTIAL LOSSES AND RECONSTRUCTION

It must be remembered that a sufficient foundation must be present or must be supplied, and that adequate lining is almost as important as external covering.

For restoring losses of any size, pedicle flaps from the forehead are used almost exclusively. The forehead tissue and skin is so superior to any other available that it is used regardless of the added facial scar. The pedicles are returned to accurate position, and the defect is covered with a thick split graft.⁷ These grafts give ultimately as good surface as full thickness grafts. The details of repair are illustrated in Figures 5, 6, and 7.

TOTAL RECONSTRUCTION OF THE NOSE^{3, 8}

The main causes of total loss or destruction of the nose in our series have been cancer and its treatment, syphilis, tuberculosis, one undiagnosed necrosis, automobile injuries, bites of animals and humans, fights, paraffinomas, burns, excessive irra-



Fig. 6—(c)

Fig. 6—(d)

diation, and one case of necrosis several years after an implantation (elsewhere) of some metal for a depressed bridge.

The diagnosis in this group should include a study of the surrounding field to determine, for example, if any further disease or new growths persist. If the destruction has been from a basal cell carcinoma, extreme care should be taken, and, if necessary, further treatment or destruction done. In this field basal cell growths are notoriously apt to return. It is also a field for the occurrence of mixed types of growths, the basal-squamous carcinomas. If one gets in the midst of a repair and finds a recurrence deep in around the pyriform fossae or clear down along the wall of the nose, the work will either have to be delayed



Fig. 7—(a)

Fig. 7—(b)

Fig. 7—(c)



Fig. 7—(d)

Fig. 7—(e)

(a) The defect includes both lining and covering and almost complete loss of the septum. Forehead flaps have been made according to patterns determined from study of a built-up plaster model. The flaps are allowed to remain in place on the forehead for three weeks.

(b) The flap on the left has been folded right down on its pedicle and anchored inside for lining. The flap on the right has been twisted around to form the covering. As these flaps are attached together throughout most of their area, the section of their pedicles must be done carefully and in stages.

(c) Final (unretouched) photograph taken six months later. The pedicles have been returned to the forehead and the remaining defect covered with a thick split graft.

(d) and (e) Defect and repair from the side. Note the great distance the tip of the nose has been let down. This is made possible by the use of the flap inside for lining.

or lost and further steps taken for the control of the growth.

In the planning of the repair practically all calculations are made by measurements of patterns from built-up plaster casts. The pattern has to fit the cloth available, and, if the forehead is very low, the nose is apt to be small or to contain some hair about the alae.



Fig. 8—(a)

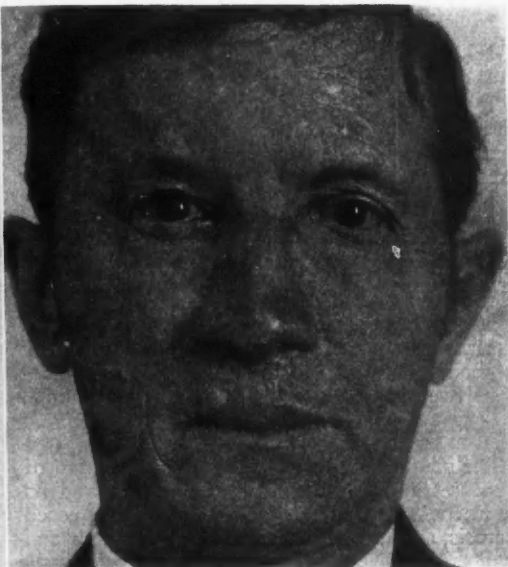


Fig. 8—(b)

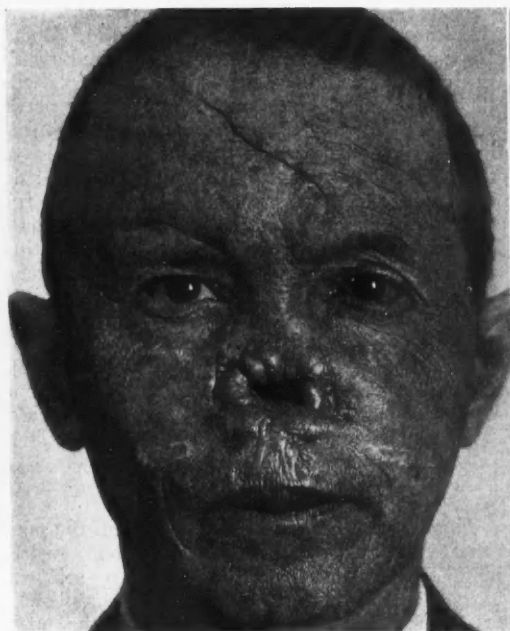


Fig. 8—(c)



Fig. 8—(d)

(a) Necrosis and discharge of a piece of metal that had been put in the nose (elsewhere) many years before. A blow on the nose was the exciting cause of the trouble.

Much of the tissue of the stump of the nose was fixed by something from the metal, so that it was black and appeared like a slough that would not separate, or it might have been heavily infiltrated with silver.

(b) Final unretouched photograph. After this photo the prominence of the columella was corrected. The entire procedure was done under block and local infiltration.

(c) It was thought necessary to build out the floor of the nose and upper part of the lip and a forehead flap was proposed for it. But it was found that the alae of the nasal stump could be used, and they are shown here after having healed down in place.

The delayed flap for the nose is seen after healing has occurred on the forehead.

(d) Taken ten days after the pedicle has been returned to the forehead and the defect covered with a thick split graft.

The plan of repair is always, if possible, to use a delayed flap taken from the forehead, and to use skin surrounding the defect as lining of the nose by turning in small delayed flaps. Flaps from the neck, chest, and arm are used only if necessary.

The full details of a total repair are described under Figure 8.

Deformities Resulting from Fractures.—It is possible that most of the apparently unexplained severe nasal deformities are the result of untreated fractures sustained early in childhood. The mechanism is probably a crushing in of the nasal bones and frontal processes, with impingement on and perhaps fracture of the cartilaginous septum. If not corrected, this deformity frequently gets worse with marked distortion of the septum and deviation of the nasal bones. The patient illustrated in Figure 4 is thought to be an example of this condition.

Fractures later in life, if not corrected early, usually leave the nose in the position it has been carried to by the blow. If it is far over on one side, the frontal processes are cut loose (and the septum if necessary) thus mobilizing the entire nose. It is then carried to a little overcorrection, and held in place with a dental splint, or by a silver wire passed around the nasal bone and anchored to a tooth on the opposite side.^{3,9}

If the nose is crushed in from the front and left there, the late correction is usually made by a cartilage transplant rather than by attempting to replace the bones and the septum. The patient in Figure 3 represents this condition.

Metropolitan Building, St. Louis, Mo.

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ABDOMINAL SECTION*

WITH PRESERVATION OF DIAPHRAGMATIC FUNCTION AND WITHOUT POSTOPERATIVE PAIN OR ADHESIONS

By JAMES F. PERCY, M. D.
Los Angeles

DISCUSSION by H. A. L. Ryskogel, M. D., San Francisco; Charles T. Sturgeon, M. D., Los Angeles.

BECAUSE postoperative pain and intestinal adhesions are so often an aggressive and distressing factor in the practice of every abdominal surgeon, I found it necessary to work out a method for preventing them. The technique that I shall briefly describe absolutely does this. In addition, it is so simple as to border on the incredible. This is particularly impressive when the history of the efforts of surgeons and laboratory research to find a procedure that would obviate them is looked into. But none of these endeavors so far have proven to be either practical or of effectual value.

CRILE'S DICTUM

It is true numerous surgeons have advocated gentleness when invading the abdomen, notably Crile, whose dictum to "treat the tissues lovingly" has become a classic. But no one, so far as I have been able to learn, has told us anything about the quality, the degree, or described the nature of the technique of this "loving touch" which leaves this marvelous and miraculous membrane unscratched. The peritoneum always resents familiarity. This closed sac is the most untouchable region of the body. The cornea will permit more trauma without harmful reaction than will the peritoneum. But touch this satin-like membrane ever so gently with anything solid or fluid, and its surface layer of cells will swell and crack and the nature (anatomical and physiological) of the injured section will immediately be altered.

The character of these changes has been well worked out and need not be repeated here. Neither do we wish to tabulate the experimental and other observations that have been made in an endeavor to prevent the harmful reactions of the peritoneum to detrimental foreign body contacts following especially major abdominal surgery. Their number, character, and often ingeniousness, are legion.

POPE'S SUGGESTIONS

But I would not be loyal, however, to this, my adopted state nor to its scientific workers, if I did not mention one who was a former colleague of many of you and a constructive, scientific investigator and teacher. In 1914, and again in 1916, Dr. Saxton Pope^{1,2} published his observations on the results following the employment of a two per cent sodium citrate combined in two per cent sodium chlorid solution as a method of preventing intestinal adhesions. But even this method was finally abandoned by its brilliant author. Another observation made by Doctor Pope and substantiated by him in the experimental laboratory of the medical department of the University of California, is not only of interest but

of great permanent value. In a personal communication, dated February 12, 1924, Doctor Pope called my attention to the pernicious results in the formation of intestinal adhesions following the routine employment of talcum powder on the surgeon's gloves. He referred to the experiments in which he had demonstrated this and also to the fact that he had taught it "in classes and debates, but had never published it." He said further that talcum powder "microscopically is a crystalline (or maybe crystalline) dust, irritating, and producing the fibrin deposit of a foreign body." He then added somewhat facetiously: "It is in fact a lost gem."

Doctor Pope closed his letter by saying, "We owe it to the patient to wash our gloves." In connection with this statement by Doctor Pope, it is well for us to recall that the surgeon who sterilizes his gloves in boiling water (wet method) automatically obviates this danger.

PRELIMINARY EXPLORATORY OPERATIONS

There is another significant change in the peritoneal cavity following an abdominal section that, in its practical bearings, is not only of scientific interest but, when taken advantage of as a planned procedure, may add immeasurably to the probabilities for a successful outcome of the surgeon's efforts.

Abdominal surgeons must have observed many times the increased toleration of the peritoneum when exposed anew following a previous section. For a number of years I have practiced and taught the practical value of a preliminary exploration on a patient who has an exceptional major abdominal problem to be met and overcome. This, be it remembered, is only for the one whose abdomen has not previously been explored. This preparatory procedure is practiced for two reasons: first, to ascertain the probable magnitude of the later surgery that may be required; second, and most important, to develop the innate resistance of the peritoneum for the proposed major surgery. It is a singular fact that practically nothing giving a clue to this experience of surgeons, following abdominal operations, is to be found in the literature of surgery. (A comparatively recent and impressive exception to this statement will be found in the John B. Murphy Oration in Surgery by D. P. D. Wilkie, M. D., Edinburgh, Scotland, on "Some Principles in Abdominal Surgery," *Surgery, Gynecology, and Obstetrics*, Vol. 50, pp. 129-138, January, 1930. The address by this distinguished surgeon confirms the observations related above. In addition, it contains much valuable supplementary information on methods of developing peritoneal resistance.)

OPERATIVE TRAUMA TO THE PERITONEUM

The balance of this paper will be based on the proposition that the only source of postoperative pain and the subsequent intestinal adhesions is operative trauma of the peritoneum. The most productive sources of this trauma are the faulty methods generally employed by surgeons in introducing gauze packs into the abdomen. Combined with this is the often unnecessary mauling

* Read before the General Surgery Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

of the peritoneal edges of the abdominal wound chiefly by retractors and artery snaps.

The gauze sponges are commonly put in the abdomen through incisions much too small and often by sheer brute force. When the extreme vulnerability of this satin-like membrane to trauma is considered we realize the reaction can be nothing less than pain and adhesions. Abdominal packs employed in this way denude, or better from a descriptive point of view, file off the endothelial covering of both the parietal and visceral peritoneum, making possible, when these raw surfaces rub together, the "gas pains" and later the adhesions, when the fibrous deposit with its ferment encourages the peritoneal surfaces to cohere. Some of us also want these sponges, before placing them in the abdomen, wrung out of all but boiling physiological salt solution. To these customary instigators of postoperative pain and adhesions we should not forget to add the drying effects of the atmospheric air when it is permitted to suck in and out of the peritoneal cavity an uncalled for length of time. (In a short uncomplicated intrapelvic operation under spinal anesthesia with an expected negligible degree of trauma, this voluminous sponge technique could, under otherwise favorable conditions, be dispensed with.) Neither can we minimize, as an additional hazard, the escape of one or more isolated intestinal coils on the surface of the abdomen, the skin of which has been previously chemicalized in the preoperative preparation of the patient. Any one or all of these produce within the abdomen acute or chronic adhesive deformities after the incision is closed.

INFLUENCE OF CIRCULATORY FACTORS

There is another important phase of this technique aside from the one of preserving intact the normal anatomical and physiological functions of the abdomen following its closure which is not sufficiently stressed in the title of my paper. I refer to the importance of preventing, while the abdomen is open, the slowing up of the circulation in the posterior abdominal and thoracic veins, thus inevitably disabling the heart.

I believe few surgeons realize sufficiently that the instant air is let into this visceral cavity the rhythmical respiratory contractions of the abdominal muscles and the diaphragm, which play such an important rôle in the circulation of the blood, is lost. Under such conditions, and especially if the operation is prolonged, blood accumulates in the great posterior abdominal and thoracic veins because, I repeat, these two most important and efficient circulatory muscular units go out of commission with the opening of the abdomen.

When the heart has lost this almost indispensable support it gradually becomes fatigued and the circulation fails. At this point we frequently find the anesthetist attempting to whip it into better action with heart stimulants, often with disappointing if not disastrous results. The technique necessary for preserving the circulatory functions of the diaphragm and of the abdominal muscles following the opening of the abdomen is unbelievably simple.

THE VALUE OF THE SIMPLE LONG GAUZE SPONGE

The essential thing is the employment of a single long, dry gauze sponge to keep the liver and surrounding viscera crowded up under the dome of the diaphragm. (The sponge or pack is made from ordinary surgical gauze. I have found that a useful average as to length is fifteen yards (13.72 m.), with a width of nine inches (23 cm.). The latter is obtained by folding the gauze lengthwise four times.) When well done, this compensates for the removal of the tone of the abdominal walls. Important as subsidiary aids to the sponge technique is adequate spinal anesthesia with an added general anesthesia when relaxation of the abdominal muscles is not satisfactory, the Trendelenburg position and a completely expanded long abdominal incision.

The correct manner of introducing the sponge into the upper abdomen is the key to its value, not only as a pack in restoring the auxiliary circulatory functions of the diaphragm and abdominal muscles, but also, when placed without traumatizing the peritoneum in the slightest degree, it precludes the development of gas pains and the later dreaded adhesions.

The sponge must be made to do two things perfectly:

First, through a liberal abdominal incision, such part of it as may be necessary is employed to lift and to crowd the loose intestines from the pelvis and lower abdomen and the liver upward under the dome of the diaphragm (Figures 1 and 2).

Second, it must be packed completely across the upper abdomen, including the filling of both kidney pockets so that it will, while holding the intestines and stomach snugly under the dome of the diaphragm, compensate for the otherwise lost valve-like action of the diaphragm. The correct method of placing the long single sponge in the upper abdomen is the crux of the technique for preventing venous stasis in the posterior abdominal and thoracic veins, and for insuring and maintaining a painless and adhesionless postoperative belly. Reduced to simple descriptive terms it means that the sponge, while pushing the loose intestines upward from the lower abdomen, must not once touch the parietal endothelial cells in the slightest degree. This can only be completely accomplished by the surgeon and his assistants, by elevating the abdominal walls with their hands encased in talcum-free rubber gloves. In doing this the dry gauze,* I repeat, must not touch anything but the gloved hands and the intestines. In packing the intestines against the diaphragm it is important not to employ force sufficient to tear any part of the fixed portion of the mesentery. It is also necessary in order to obtain the largest possible exposure of the lower abdomen and

* Formerly the sponge was wrung out of hot physiologic salt solution. This moist method was abandoned and the dry sponge substituted after reading the description of the destructive action of salt solution on the cells of the peritoneum in the chapter, "Inflammatory Reaction of the Peritoneum," Vol. I, *The Peritoneum*, by Hertzler, C. V. Mosby Company. This chapter is also a mine of useful information on many phases of peritoneal adhesion lore.

pelvis, to set the sponge well under the intact upper abdominal wall. The novice in his first employment of this method usually fails to push the sponge upward as far as it can be placed, thus limiting his operating field below (Figures 1 and 2); when placed high it is usually proof against dislodgment should the patient have a spell of retching.

I want to reemphasize the ease with which the upper abdomen is protected from the harmful effects of the lowered temperature of the operating room by the sponge method just described. In addition, the moisture of the surface of the intestines, together with their warmth, and the normal temperature of the liver is maintained. These desiderata Crile insists are of preëminent importance for the general well-being of the patient whose abdomen is open.³

The same care and method must be employed in withdrawing the sponge, as was practiced in introducing it into the abdomen. The patient who, as a rule, after its placement and also during the major operative procedures, has required but very little additional anesthetic, is again etherized sufficiently to relax the abdominal walls. They are then elevated with the rubber-gloved hands as they were originally when the sponge was put in place, and it is removed over them. In doing this the abdominal walls must be gently lifted away from the sponge with the rubber-gloved hands. If ever so small a fraction of the gauze is pulled away while sticking to the peritoneum, the latter is denuded of its protective endothelium to just that extent. This unhappy situation always expresses itself as general postoperative abdominal distress or even as a frank pain. But unfortu-



Fig. 1.—With the patient in the Trendelenburg position the long, dry gauze sponge is folded in order to facilitate its introduction into the abdomen over the rubber-gloved hands of the surgeon and his assistants.

nately the trouble does not end with the passing of the pain, following the administration of morphin. This trauma, be it ever so slight, becomes the foundation of the so often disastrous intestinal and parietal wall adhesions.

With the sponge out, the omentum is rearranged and the abdomen closed.

COMMENT

The surgeon who masters this simple technique in all of its practical possibilities is certain to make it his routine procedure in all of his future lower abdominal surgery. It will sustain the heart of his patient without fatigue or fear of failure, should the operation be necessarily prolonged for an unknown number of hours. The final results, both immediate and remote, if the operation has not otherwise violated the fundamental principles of good surgery, are: no shock, no vomiting, a soft painless belly, no first night wakefulness or wretchedness, no peritoneal reaction expressed by gas pains, rarely a need for even a small dose of morphin, a normal heart action throughout, and a comfortable convalescence with never postoperative adhesions; and on the part of the surgeon a new conception of a normal surgical convalescence following a major abdominal section.

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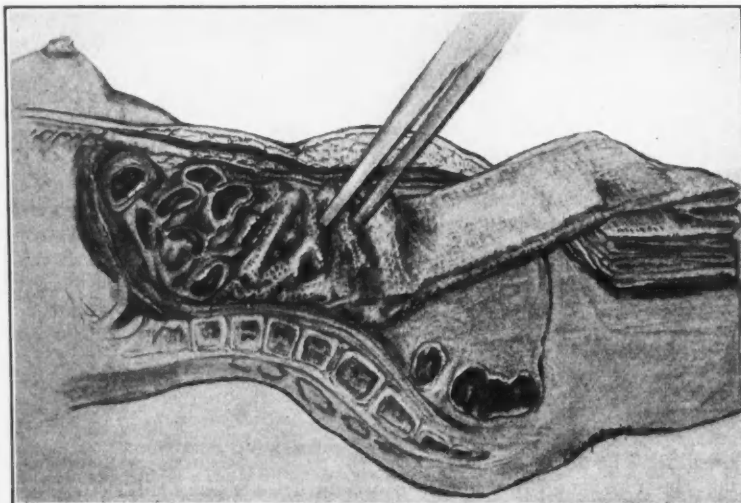


Fig. 2.—The object of this sponge is to pack the intestines against the diaphragm. In order to have it hold its position the sponge should be well set up under the costal cartilages. The kidney pockets should also be filled, without in any way traumatizing the endothelial cells.

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DISCUSSION

H. A. L. RYFKOGEL, M. D. (516 Sutter Street, San Francisco).—Doctor Percy's packing technique deserves careful attention.

The postoperative comfort of Doctor Percy's patients on whom he has performed his long cautery dissections for carcinoma is very striking, as I have often personally noted. His method of giving "loving care" to the peritoneum is based on a careful analysis of the factors involved.

There is no doubt that dry gauze does less damage to the peritoneum than does the cement-dissolving and infection-spreading wet sponge. Anyone who has used the single long pack realizes its greater efficiency. Operations under local anesthesia have taught us that irritation of the parietal peritoneum causes pain and must be avoided even though the patient be anesthetized.

Doctor Percy probably does not assert that contractions of the diaphragm cease on opening the abdomen, but rather that a theoretical rhythm between the contractions of the diaphragm and abdominal muscles disappear.

In the upper abdomen there is normally a sub-atmospheric pressure which, in spite of the descent of the diaphragm, is increased during inspiration because the upper abdominal capacity becomes greater when the lower ribs expand. It is possible that this varying negative pressure helps the circulation of venous blood in the abdomen. That free air or gas in the peritoneal cavity immediately travels to the sub-diaphragmatic region is a common clinical observation and, therefore, when the abdomen is opened the atmospheric pressure probably becomes positive. It is possible that Doctor Percy's pack by forcing the viscera against the diaphragm restores the normal pressure.

For many years I have quoted to my assistants another statement made by Hertzler in the chapter to which Doctor Percy refers:

"There is but one pack preferable to the dry pack in the abdomen; that is the one that remains in the dressing closet. If the portion of the organ only is exposed which is the object of operative attack, no pack of any sort is needed."

✱

CHARLES T. STURGEON, M. D. (1930 Wilshire Boulevard, Los Angeles).—Doctor Percy has brought out in a very logical manner the different steps by which a major operation can be performed with the minimum amount of trauma. There is very little that one can add and certainly nothing that one can criticize.

In all operations of the lower abdomen the patient should be placed in the Trendelenburg position while the anesthetic is being given. Usually by the time the abdomen is opened the intestines have gravitated toward the diaphragm, and it requires very little manipulation to place the protective pack.

The patient should be thoroughly anesthetized before the surgeon starts the operation, for probably one of the greatest causes of damage to the peritoneum is the attempt of the surgeon to forcibly replace the small intestines into the abdomen or to pack away the intestines toward the diaphragm while the patient is straining.

As mentioned by Doctor Percy, very little anesthetic should be used during the course of the operation, but a point to be emphasized is that the patient should be thoroughly anesthetized before any attempt is made to remove the packing, because if the patient should strain while the gauze is being removed the intestines will be dragged out on the abdominal wall

and will again have to be forcibly returned into the abdominal cavity.

A point which Doctor Percy did not mention but which I am sure he recognizes, is that in closing the peritoneum the cut edges should be everted, thereby preventing the possibility of tags projecting into the peritoneal cavity and lessening the possibility of post-operative adhesions.

Doctor Percy should be congratulated in bringing before the surgical section a technique with which every surgeon should be thoroughly familiar.

SODIUM AMYTAL—ITS VALUE IN SEASICKNESS

By HAROLD HAMILTON, M. D.
Honolulu, Hawaii

AT the suggestion of the medical director of the Matson Navigation Company, a study was made of the value of the more commonly used drugs in the prevention and treatment of seasickness, with special attention being directed toward sodium amytal.

PROCEDURE ABOARD SHIP

During the past year sodium amytal has been given very extensive trials at sea. During this period of time upward of four hundred cases of seasickness were studied as regards their reaction to treatment with this drug. For the most part the cases treated were between the ages of sixteen and sixty. The following doses apply, therefore, to adults. At the same time patients treated with sodium nitrate, bromids, belladonna, members of the coal-tar group, and veronal, were observed very carefully for the purpose of comparing their clinical characteristics and efficiency with that of sodium amytal. Special attention was paid to the value of hyoscin hydrobromid in the treatment of seasickness. It might be mentioned at this point that up to the time of the introduction of sodium amytal, hyoscin hydrobromid was, in our experience, the most valuable drug with which to prevent and to combat seasickness; veronal was a close second.

DOSAGE AND METHODS USED

As far as was possible, means were taken to induce potential patients to take the drug about an hour prior to the sailing of the ship, and when so used, it was administered in capsule form, one capsule (3 grains or 0.2 gram) being remarkably efficacious as a prophylactic. If subsequent medication became necessary, a second capsule was given about two hours after the first. The results were almost invariably satisfactory.

Most of the patients were seen, however, after the ship had sailed and after the symptoms of seasickness were well under way. It was in these cases that the effect of the sodium amytal were most marked and satisfactory, and it was the stage of the condition in which relief is most welcome to the patients. Truly they wished themselves dead, and usually had long since given up all hope of relief. In these cases an initial dose of 3 grains or 0.2 gram is given, followed by a similar dose two hours later. Symptomatic relief was noted in approximately 70 per cent of the cases in from

fifteen to forty-five minutes after the preliminary dose. Clinically, the typical patient falls very shortly into a light sleep from which he may be easily aroused. The condition lasts from three to four hours. From this partial narcosis the patient awakens feeling markedly refreshed, free from nausea, and in a surprisingly number of cases actually demands food. It is noteworthy that the administration of the drug is not followed by the mental depression so frequently seen after bromid or veronal medication.

In cases where nausea is very severe and emesis almost continuous, it is obvious that the drug cannot be given in capsule form, for it is ejected before its pharmacological action can have taken place. On the other hand, iced bitters and certain stomachics are fairly well tolerated and retained by patients with fairly severe nausea, and the administration of the drug in ice water permitted retention for sufficient time for it to take effect. The administration in this way in ice water was found to be vastly superior to its administration in milk or syrups, and it might be remarked in passing that we are coming to use this method in an increasing number of cases, almost to the exclusion of the capsule. Emphasis must be placed on the importance of using water well iced; any suggestion of a warm solution is not well tolerated.

A small percentage of the victims of mal de mer present as the sole symptom a more or less severe degree of vertigo. These patients are usually quite comfortable while recumbent, but become very dizzy upon attempting to walk about. In these cases one capsule (3 grains or 0.2 gram) administered in solution in ice water suffices to clear up this condition in a very satisfactory manner.

The intravenous use of sodium amytal, which is finding a broad field of usefulness in surgery and obstetrics, has not as yet been attempted in this study. It does, however, open up a possible avenue of treatment in those rare cases of seasickness in which the patient is actually dangerously ill.

The rectal administration of sodium amytal has proved of value in other conditions, and it is easily seen that in selected cases this method should find a place in the treatment of mal de mer. It may be given either by inserting the capsule as a suppository or by dissolving its contents in a little water and injecting the solution into the rectum.

CONTRAINDICATIONS

Contraindications are singularly few. It should be given very cautiously to elderly people with generalized arteriosclerosis and hypertension. Should vascular depression manifest itself in an exceptionally sensitive patient, three-eighths to three-fourths grain (0.025 to 0.05 gram) ephedrin sulphate and seven and one-half grains (0.5 gram) caffeine sodiobenzoate may be administered hypodermically. Sodium amytal should not be given to patients known to be hypersensitive to barbituric acid derivatives. In our series we have yet to encounter a case in which the slightest unfavorable reaction was noted.

SUMMARY

1. An extensive study was made of the value of sodium amytal in seasickness.
2. Comparisons were made between sodium amytal and several widely employed remedies for seasickness.
3. In order of efficacy, both as prophylactic and curative properties, we have (a) sodium amytal; (b) hyoscin hydrobromid; and (c) veronal.
4. One capsule (3 grains or 0.2 gram) repeated, if necessary, in two hours, was found to be remarkably effective.
5. Administration in solution in one ounce of ice water was found to be the method of choice.
6. The chief contraindications are the chronic degenerative processes, particularly in the elderly. It should not be given to those known to be hypersensitive to barbituric acid derivatives.
7. Ephedrin sulphate and caffeine sodiobenzoate may be given hypodermically should vascular depression manifest itself in an exceptionally sensitive patient.
8. The intravenous and rectal methods of administration are suggested for selected cases.

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WHAT TO EAT ON GOING TO BED^{*}

By LEO L. STANLEY, M. D.

AND

GORDON L. TESCHER

San Quentin

THE hostess is often concerned with what she should serve to her guests after an evening of bridge. It has been demonstrated that the taking of a cup of coffee on retiring insures a more restful night than the taking of hot water or going to bed "on an empty stomach."[†]

This report is on some experiments which were made to find out whether the average individual rests better after eating a steak on retiring or devouring a quarter of a pound of cake, or taking ice cream, butter, or other fatty foods.

APPARATUS

An apparatus similar to that for determining the effects of coffee on sleep was used. (See CALIFORNIA AND WESTERN MEDICINE, May 1931, page 359, for illustrations of apparatus used.)

This consisted of beds suspended over pneumatic bulbs in such a way that any movement of the subject was transmitted by rigid air-filled tubes to the recording kymograph. The apparatus is graphically described in Figure 1 of above referred to illustrations.

Figure 2 shows the arrangement of the bed suspended over the pneumatic bulb which in turn is connected by means of the air-filled tube to the kymograph (Figure 3), as per illustrations noted above.

^{*}From the Medical Department of the California State Prison at San Quentin, California.

[†]"The Effects of Coffee on Sleep" by Stanley and Tescher, CALIFORNIA AND WESTERN MEDICINE, Vol. 34, No. 5 p. 359, May 1931.

MEN SELECTED FOR THE TESTS

Seven men prisoners were selected for the tests, as follows:

	Age	Weight	Occupation	Crime	Time Served
Subject 1	20	130	Lab. tech.	Murder	3 years
Subject 2	38	215	Druggist	Robbery	4 years
Subject 3	47	126	Doorkeeper	Kidnaping	10 years
Subject 4	31	173	Surg. nurse	Murder	8 years
Subject 5	42	172	Surg. nurse	Murder	4 years
Subject 6	33	130	Lab. tech.	Murder	9 years
Subject 7	30	140	Lab. tech.	Murder	11 years

PROCEDURE

For ten days, January 18 to January 30, 1931, a normal was established.

During the next ten days, January 30 to February 9, a quarter of a pound of cake was given to each of the seven subjects on going to bed.

For ten days, February 9 to February 20, a quarter of a pound of eggs or meats was given to each of the seven subjects before retiring.

During the last ten days of the experiment each of the seven subjects was given one ounce of butter on toast at bed time.

The movements during the sleeping periods for each of these three procedures were recorded on the kymograph and subsequently counted.

These figures are shown in the following tables:

CHART 1.—Average Number of Movements Per Hour on Normal Diet

Date	Sub- ject 1	Sub- ject 2	Sub- ject 3	Sub- ject 4	Sub- ject 5	Sub- ject 6	Sub- ject 7	Aver- age for Group
Jan. 18	4.7	11.6	3.0	11.1	11.5	4.9	7.2	7.7
Jan. 19	3.4	11.1	4.6	11.2	12.5	4.1	8.4	7.9
Jan. 20	6.2	6.0	4.0	13.2	12.5	3.6	5.9	7.5
Jan. 21	4.1	9.0	3.7	9.9	11.3	4.4	8.1	7.2
Jan. 23	8.1	9.8	6.3	5.6	14.5	10.1	7.5	8.8
Jan. 24	5.0	7.7	5.1	11.3	8.5	3.0	6.4	6.7
Jan. 25	5.7	8.8	7.1	6.3	12.3	3.5	9.3	7.5
Jan. 26	4.8	12.1	....	12.1	10.3	3.7	5.4	8.0
Jan. 27	4.0	14.3	3.2	15.4	11.4	5.0	8.2	8.8
Jan. 29	6.6	11.2	3.3	11.2	10.1	5.3	6.7	7.8
Period Average								7.89

CHART 2.—Average Number of Movements Per Hour on Carbohydrate Diet (One-Quarter Pound of Cake)

Date	Sub- ject 1	Sub- ject 2	Sub- ject 3	Sub- ject 4	Sub- ject 5	Sub- ject 6	Sub- ject 7	Aver- age for Group
Jan. 30	6.4	10.0	3.8	16.0	9.2	5.5	8.7	8.5
Jan. 31	....	8.3	4.1	16.4	11.2	5.5	5.6	8.5
Feb. 1	7.7	9.1	4.0	....	9.0	6.0	7.7	7.3
Feb. 2	7.8	7.9	4.4	6.7	10.6	5.0	10.8	7.5
Feb. 3	6.6	12.3	5.8	10.4	10.2	6.2	7.8	8.4
Feb. 4	6.4	12.1	5.4	9.4	10.9	6.2	10.7	8.6
Feb. 5	6.3	11.7	6.4	10.9	10.0	6.5	9.6	8.8
Feb. 6	7.2	11.8	5.6	9.1	11.1	7.0	9.0	8.6
Feb. 7	10.2	13.0	3.6	10.1	14.0	5.3	11.1	9.6
Feb. 8	10.0	14.6	6.0	11.4	9.3	7.1	9.5	9.7
Period Average								8.56

CHART 3.—Average Number of Movements Per Hour on a Protein Diet (One-Quarter Pound of Eggs or Meat)

Date	Sub- ject 1	Sub- ject 2	Sub- ject 3	Sub- ject 4	Sub- ject 5	Sub- ject 6	Sub- ject 7	Aver- age for Group
Feb. 9	9.3	12.0	4.0	12.0	11.3	6.3	9.3	9.1
Feb. 10	6.7	16.7	5.7	12.0	11.3	6.5	9.6	9.9
Feb. 11	6.0	9.7	4.4	11.4	10.6	5.5	9.4	8.1
Feb. 12	5.5	10.6	4.4	10.2	11.8	7.6	9.1	8.4
Feb. 13	6.0	15.7	4.0	11.0	11.1	6.0	10.4	9.1
Feb. 14	5.1	9.8	3.3	11.0	12.6	5.7	9.0	8.1
Feb. 16	9.3	11.2	4.1	15.0	12.8	6.0	9.3	9.6
Feb. 17	9.2	11.0	6.1	14.0	14.3	5.8	8.8	9.9
Feb. 18	10.5	9.8	5.3	9.7	10.2	5.6	9.6	8.7
Feb. 19	8.0	10.8	5.2	13.5	17.9	4.5	10.5	10.0
Period Average								9.0

CHART 4.—Average Number of Movements Per Hour on a Fat Diet (One Ounce of Butter)

Date	Sub- ject 1	Sub- ject 2	Sub- ject 3	Sub- ject 4	Sub- ject 5	Sub- ject 6	Sub- ject 7	Aver- age for Group
Feb. 20	10.0	11.8	4.4	11.3	13.8	6.1	7.6	7.8
Feb. 21	9.2	13.0	4.0	....	12.4	7.0	8.7	9.0
Feb. 22	8.3	11.4	3.0	....	13.5	6.4	....	8.5
Feb. 24	8.8	18.6	2.3	13.3	12.0	4.9	7.9	9.6
Feb. 25	8.0	9.2	3.2	12.5	8.0	6.0	9.3	8.0
Feb. 26	....	9.8	4.4	10.0	13.6	5.0	8.1	8.5
Feb. 27	11.2	18.0	....	12.8	12.4	8.2	7.8	10.7
Feb. 28	9.2	11.4	6.3	9.8	13.0	6.2	6.6	8.9
Mar. 1	8.1	10.2	5.8	....	16.0	4.7	7.7	8.7
Mar. 2	6.6	8.5	....	....	10.6	6.2	7.7	7.9
Period Average								8.76

CHART 5.—Summary of Average of All

Normal—Nothing taken	7.89 movements per hour
Carbohydrate diet	8.56 movements per hour
Fatty diet	8.76 movements per hour
Protein diet	9.00 movements per hour

COMMENT

These figures would seem to indicate that a more restful sleep is had if nothing is eaten on going to bed.

But a protein diet causes more disturbance of rest than either one of fat or of carbohydrates.

Of the three, there is less restlessness with the taking of carbohydrates.

San Quentin.

FRACTURES OF THE OS CALCIS*

By MAYNARD C. HARDING, M. D.
San Diego

DISCUSSION by Edward N. Reed, M. D., Santa Monica;
Fred Fairchild, M. D., Woodland; Fraser L. Macpherson, M. D., San Diego.

THE frequency of fractures of the os calcis is growing with the increase of all types of fracture. Its relative frequency seems to depend on the amount of construction in a given locality, since it is largely a fracture of falls from a height of ten feet or more. Ellison,⁹ in 1927, stated that it constituted three-tenths of one per cent of all fractures. In a recent article he increased it to two per cent. Herman⁴ estimated it at two per cent. My own experience places it at about one per cent.

Following Cotton's papers on the treatment of os calcis fractures in 1908 and 1911, not much had been written on the subject until my article in the *Journal of Bone and Joint Surgery* in 1926,¹⁰ setting forth the method the author had used since 1917. This present paper deals with the further use of this method, with modifications suggested by experience.

As is well known, nearly all these fractures are caused by falls on the feet. A few may be direct crushes, or the posterior end of the heel may be bitten off by a shearing force such as a descending elevator.

* Read before the General Surgery Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

CLASSIFICATION OF HEEL FRACTURES

Recent authors have classified heel fractures in several ways, some of which are quite complex. It seems to me that the earlier and more simple classification is best, as it is directly related to the different methods of treatment.

First, may be considered the fracture of the posterior part of the heel not entering the subastragaloid joint. The deformity is generally directly upward displacement. The reduction is a simple problem, even though often difficult.

Second, may be considered the fractures entering the subastragaloid or calcaneocuboid joint, but without broadening of the os calcis. Here the problem of painful stiffening of the joints enters. Further experience has shown me that, while subastragaloid stiffening is one of the most disabling results, calcaneocuboid pathology is a marked factor of disability in some cases.

Third, may be considered the smash fracture. Here we have the familiar picture of a heel bone which is shortened fore and aft and broadened until it may project beyond the malleoli. The posterior end is thrust up and the arch flattened, often with marked rupture of the plantar fascia and ligaments. Comminution into the subastragaloid and calcaneocuboid joints gives a rough articular surface, beyond the reach of any manipulation to smooth out. This third type is the one we ordinarily think of. It is the one that Cotton classified as causing disability second only to fractures of the neck of the femur. The disability runs true to form, according to the pathology. Pain under the heel on walking is due to pressure on callus in the sole. This results from insufficient reduction downward of the posterior fragment, so that weight is being borne on the fracture line instead of on the tuberosities where nature intended it to be borne. Extensive plantar ligament tear may also be a factor, but is rarely so persistent. The most common disability is due to broadening and to a rough subastragaloid joint. Broadening interferes with lateral motion so necessary in walking on uneven ground, while it also impinges on the peronei tendons as they pass through the mortise under the tip of the external malleolus. Impaired lateral motion does not necessarily cause pain, for nearly all of these types have some restriction as an end result. It is likely that the very painful cases have a joint irregularity from a fragment that acts like a locking joint mouse in the knee. This has a definite bearing on reduction. Where the fracture line penetrates the calcaneocuboid joint, a further factor of foot stiffness, with varying degrees of pain, is introduced. This stiffness may involve all the midtarsal joints, remaining for months in spite of persistent physiotherapy. I believe it to be due to scar tissue following extensive rupture of the fibrous investment which holds the bones of the foot together. Occasionally, of course, there is an inflammation with some infectious complication, but the force of the injury will account for most of the symptoms.

DIAGNOSIS

A diagnosis is made on the history of a fall on the feet, together with marked bulbous swelling and characteristic localized pain on pressure and manipulation. The heel may be markedly shortened and the arch lost. Broadening is often extreme. The exact type of fracture can be told only by the x-ray. The customary anteroposterior and lateral foot views are not enough to bring out all the pathology. The following position, worked out many years ago by Dr. Lyell C. Kinney, is also necessary:

"The patient is placed prone on the end of the table with the foot in dorsal flexion, the plate against the sole of the foot. The tube is shifted so the central ray is perpendicular to the axis of the os calcis. This is of great importance, as it shows both lateral broadening and lateral angulation or displacement of the posterior fragment."

TREATMENT

Let us consider the treatment of the "smash" fracture, bearing in mind the pathology just outlined, as well as the customary results with their causes. It is a surgical axiom to restore broken bones as nearly as possible to their original form. Our proposition here is:

1. To bring down the posterior end of the heel until the inferior tuberosities are the most dependant part (this is to prevent pain in the sole on weight bearing).
2. To break up impaction and remould the bone to approximately its normal width, remembering that if much comminution exists, some shortening and broadening will remain after the most careful reduction.
3. To restore the arch.
4. To secure as free a motion as possible in the subastragaloid and calcaneocuboid joints.

Most of the recent authors are agreed on the first two points in reduction. Some of them stress the third, but none the fourth.

There is considerable unanimity in advocating Cotton's mallet impaction for broadening, and the use of traction downward on the heel. Ellison¹ uses impaction and traction by tongs or tendon lengthening. Allison² advises operation and primary subastragaloid arthrodesis of the majority. Herman⁴ uses mallet impaction and traction by tongs or pin. Wilson⁵ advises arthrodesis of all. Nutter⁷ also advises arthrodesis of all. Buehler uses traction and countertraction by a Steinman pin through the os calcis and one through the tibia, with clamp impaction.

Author's Method.—The following method to be described was worked out by the author in an attempt to bring adequate force to bear in correction of all the deformity so far as possible. The instruments needed are: (1) a common D clamp used by carpenters; (2) a pair of felt-padded boards 1 x 2 inches in size; (3) a triangular wooden wedge four inches high; (4) a pair of skeletal traction tongs or a four-prong sharp retractor; (5) a hammer.

The patient's leg is bent over the side of the table with the foot placed on the wedge which rests on a stool of suitable height. No adequate relaxation of the uncut Achilles can be obtained with a straight leg. I have never found it necessary to do a tenotomy if this position has been used. The surgeon sits on a low stool or bench. His assistant sits on a bench or on the floor. If tongs are used they are seated in stab wounds as far back as a good hold can be obtained. If the retractor is used, seat it deeply at the attachment of the Achilles by a sharp blow of the hammer. It has proved very satisfactory in most of the cases. Possibly a little better backward pull can be obtained by the use of tongs.

The surgeon holds the foot in extreme plantar flexion over the wedge. The assistant makes strong downward traction on the retractor. This should restore the arch and draw down the posterior fragment. If there is difficulty in unlocking the fragments, traction backward and then downward is made and repeated. The thickness of the well heel is measured and noted, using the clamp as a caliper. The pads are applied to the sides of the fractured heel and the clamp screwed up slowly to dissipate the swelling. Then strongly to mould the bone, all the while maintaining strong downward traction on the forefoot and heel. Further downward correction can be made during compression. The pads are shifted several times, compression being continued until the two heels compare favorably in width. Then, with the clamp firmly set, use it as a wrench to produce lateral rocking in the subastragaloid joint. Also mobilize the midtarsal joints. If good motion can be obtained at this time, in all probability it will be retained. I am convinced that this is important.

Remove the clamp, wedge, and stool. Apply a snug cast while maintaining plantar flexion and strong heel traction. Just before the plaster sets, put the pads on the outside of the cast and mould the plaster in with the clamp until the heel is tightly clasped. As soon as the plaster has set, remove the clamp and retractor. The cast is then carried to mid thigh with the knee at 135 degrees, to keep the Achilles relaxed.

The after-care is quite simple. The cast may be removed in four or five weeks, when active motion and physiotherapy are begun. In about six weeks the patient can bear weight on the ball of the foot. In eight weeks he is fitted with a felt arch supporter and allowed to walk on the whole foot.

COMMENT

The results have been surprisingly good. As stated before, nearly all of these heels have some limitations of motion and some changes in shape. There are twenty-six cases in the series treated by this method. Three are too recent to know the end results. The other patients have returned to their ordinary work. Their average period of disability was between five and six months. None have had any further operations.

There are three types of heel fracture that need open reduction. In fractures of the posterior half, when the fragment cannot be brought down

by manipulation, a horseshoe incision running as far forward as the fracture line on the outer side is made and the bone exposed. An attempt is made, with the knee flexed and the foot in plantar flexion, to lever the fragment down into place. If this is not possible, do a diagonal section of the Achilles. Hold the fragment with a beef-bone screw or a nail. Cast as in the other fracture.

For those old cases with persistent pain in the subastragaloid region or with excess bone under the external malleolus, make a curved incision under the tip of the fibula and remove excess bone. Next enter the subastragaloid joint and remove all cartilage in sight, producing an arthrodesis. This is entirely satisfactory as a pain reliever in the majority of cases. The resultant stiffness is gradually overlooked, provided mobile midtarsal joints are secured.

In that type of cases where the patient is walking on tender callus in the sole, make an external incision parallel to the plantar surface and chisel away enough callus to leave the tuberosities the most dependent part. These patients, particularly, need an arch support, preferably flexible.

IN CONCLUSION

It is unfortunate that many surgeons cling to the belief that a cast in the position of deformity is good treatment. I see several patients a year for insurance companies where no further treatment has been attempted. Nothing but arthrodesis with remodeling remains for these patients after a year or more spent in trying to make a painless joint by physiotherapy. At the other extreme is the unjustified pessimism that is leading some men to immediate operation. Surely every case is entitled to have at least the manipulation described here. If this can produce a good result, why operate?

700 Electric Building.

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DISCUSSION

EDWARD N. REED, M. D. (301 Professional Building, Santa Monica).—Doctor Harding has insisted for years on two considerations which are apt to be overlooked, in the consideration of the gross deformity of a severe os calcis fracture, yet which are of primary importance to recovery of function. I refer to the involvement of the subastragaloid and calcaneocuboid joints; and to development of a weight-bearing surface in front of the tuberosity of the os calcis, and usually within the area of attachment of the plantar ligaments.

Dr. Andrew R. MacAusland remarks that: "It is a paradox that a slight injury to an os calcis, with fracture, will give you more prolonged disability than a severe injury." This because the severe injury usually produces an arthrodesis of the subastragaloid joint.

Several methods are advocated for reduction of os calcis fractures. I have used Doctor Harding's method a number of times and have had good success with it. The need for reducing the deformity, by whatever method, is obvious. But I believe that Doctor Harding's insistence on securing free movement through normal range, in the subastragaloid and midtarsal joints, at the end of the reduction, is not sufficiently stressed.

Producing this movement tends to iron down edges of fragments which project into the joint space, and to smooth out the articular surface. It is these edges and spicules projecting into the joint space, which, after consolidation has taken place, cause the pain in walking on uneven surfaces.

To guard against a painful weight-bearing surface on the bottom of the heel, the restoration of the tuberosity to its position as the lowest level of the os calcis must be insured. The Achilles tendon must be slacked off by dressing the leg in knee flexion and foot drop. Even with this position I have sometimes felt safe only with a pin introduced through the bone and incorporated in the plaster cast; and have never had any trouble from the pin.

Such a pin through the bone makes the manipulation of reduction surer and easier and I believe is the method of choice where the position of the posterior fragment requires considerable alteration.

In its end results fracture of the os calcis is one of the most disabling of all fractures. My own experience is in agreement with Doctor Harding's, that these fractured os calcis do not all require immediate arthrodesing operation but that many can be restored to painless function by the method he has outlined.

*

FRED R. FAIRCHILD, (Woodland Clinic, Woodland).—We are in agreement with Doctor Harding's opinion that fractures of the os calcis seem to be becoming relatively more frequent. For the past ten months, of all fractures treated by us, seven were of the os calcis, approximately two per cent for this ten months' period.

We would stress the necessity for the examination of the spine in all fractures of the os calcis since the type of violence causing this lesion is such as to make an associated compression of the vertebral body not infrequent.

The classification of os calcis fractures as outlined by Doctor Harding seems excellent. We have used Wilson's classification and divide fractures of the os calcis into isolated fractures and into fractures of the body of the bone, considering the latter under the broad subdivisions of fissured and comminuted fractures.

In the first type of fracture we have no hesitation in using a pin or preferably a wire if the reduction is difficult. In the second type we feel that there is great danger in using a pin as there is the possibility of changing a simple fracture into a compound one by this method. This rarely happens; but once having seen it, the danger is not easily discounted.

We agree with others that fractures of the os calcis are very disabling when they extend into the subastragaloid or the calcaneocuboid joint. We have felt that the majority of such fractures require a fusion and we have noted that in all such fractures, at the time of operation, the irregularity of joint surfaces is much more pronounced than one would be led to have supposed from the x-ray.

We also feel that it is important when x-raying the fracture, that a plantar view be taken as well as an anteroposterior and lateral, as we have several times demonstrated a fracture by a plantar view that would otherwise have been missed.

We are in accord with Doctor Wilson's opinion that the amount of motion recovered in a severe frac-

ture of the os calcis involving the subastragaloid or calcaneocuboid joint, or both, is very little, and that generally such motion while not materially aiding function causes pain.

Our experience convinces us that in a bad fracture of the os calcis a fusion operation gets the patient back to work much sooner than by any other treatment. Too frequently those conservatively treated eventually come to a fusion. We are inclined in severe os calcis fractures to advise immediate arthrodesis.

It is most gratifying to know that Doctor Harding by his conservative method has had such excellent success. Possibly the pendulum is swinging too far toward the side of surgical treatment. Very likely the method of choice will ultimately be found to be somewhere between the two extremes.

*

FRASER L. MACPHERSON, M. D. (610 Medico-Dental Building, San Diego).—For the past five years I have had the opportunity of seeing many of Doctor Harding's patients and have also used the same method in my own practice.

It is surprising the amount of anatomical reduction that is possible in these severely smashed fractures of the os calcis. Many of the severely comminuted fractures of course cannot be anatomically reduced, but by this method the alignment of the subastragaloid joint is much better restored than by any of the other methods described.

Another advantage of this method is that the patient is able to be put in a plaster cast immediately and the length of time spent in the hospital is thereby greatly lessened.

I feel this is the method of choice in reducing this type of fracture.

FAVUS IN CALIFORNIA*

REPORT OF CASE DUE TO A STRAIN PATHOGENIC FOR MICE

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AND

FRED D. WEIDMAN, M. D.
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DISCUSSION by Samuel Ayres, Jr., M. D., Los Angeles; Hiram E. Miller, M. D., San Francisco; Ernest K. Stratton, M. D., San Francisco; Harry E. Alderson, M. D., San Francisco.

DISEASES of the skin produced by fungi of the achlorion or allied groups and characterized by typical scutula are extremely rare on the Pacific Coast. According to Crutchfield, Michael, and Shelmire, few cases of favus have been observed in our southwestern states, although other forms of fungus infection are extremely prevalent.

In 1926 Frost and Koetter reported a case of favus, but in a recent communication from one of them¹ doubt was expressed as to whether this diagnosis should not be revised.

Since the literature fails to reveal additional cases of favus occurring in California, it is assumed that this is the first case to be actually published, although various physicians have verbally stated that they have seen examples of the disease.

* Read before the Dermatology and Syphilology Section of the California Medical Association at the sixtieth annual session at San Francisco, April 27-30, 1931.

REPORT OF CASE

K. G., age fifteen, male, of Jewish extraction, born in the United States, was first seen December 29, 1930. He complained of a skin eruption on the posterior surface of the neck, which itched, burned, and seemed to be slowly increasing in size. At the time of the onset, some two weeks before, he was attending a military academy near Los Angeles. His room mate, a native of Mexico, as far as could be ascertained, did not have a similar infection nor on careful examination did any of the other students.

Examination showed a small group of grayish white scutula. They were raised several millimeters above the surface of the skin, were more or less friable and in some instances pierced by a hair.

Upon removing the scutula the underlying surface was found to be somewhat excavated, reddened, and bleeding occurred in several instances. Atrophy and suppuration were absent when first seen.

The scutula showed no evidence of becoming confluent, possibly due to the fact that in robust individuals the progress of the malady is exceedingly slow and months often elapse before there is extensive involvement.

Laboratory Findings.—Erythrocytes, 4,370,000; leukocytes, 4150; hemoglobin, 82 per cent; color index, 0.9; Differential: polymorphonuclears, 63; small lymphocytes, 30; large lymphocytes, 2; eosinophils, 4; and basophils, 1. Morphology normal. Kahn negative. Urine negative.

Mycological Studies.—Since scutulum of favus is composed almost entirely of fungus, there was no difficulty in demonstrating mycelium in routine extemporaneous NaOH preparations. The appearances were unlike the conventional *Achorion schonleinii* in that (1) the spore masses consisted of spherical cells rather than the ellipsoidal ones representative of the arthrospores of *Achorion schonleinii*; (2) there were rather numerous, long, seldom-branched hyphae; those of *Achorion schonleinii* are generally closely branched and become so promptly broken up that they do not appear in long hyphae; (3) yet again, the spores generally contained a large hyaline, spherical central mass which reproduced something of the fish-eye effect that has been described for *Monilia psilosis*. In short, the appearance of this material from a scutulum was unexpectedly

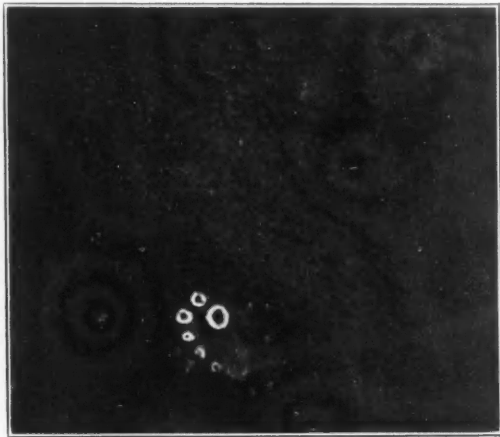


Fig. 1.—Typical scutula on the posterior surface of the neck. Natural size.

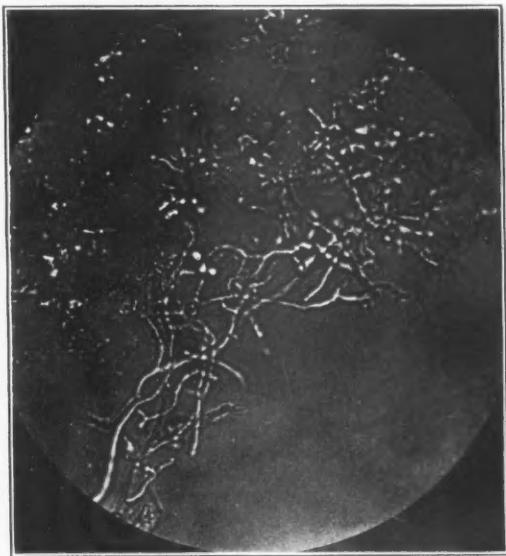


Fig. 2.—Microphotograph of unstained fungi from one of the scutula. Magnification 400.

like that of a trichophyton from a very old agar culture.

Cultures.—In two weeks colonies were three centimeters in diameter and occupied the entire width of the glucose agar slant in one-inch glucose agar tubes. The colony had sharp margins, was snowy white except in the center, where it was a faint creamy yellow. The colony as a whole was but slightly elevated above the general level of the agar, but the peripheral parts appeared more highly bulged than they actually were because the center was so definitely depressed. There was not the slightest trace of granularity to indicate formation of conidia on this medium.

On conservation medium the features were the same, but in miniature. Colonies at the uppermost dried-out part of the slant were definitely granular, but of course this feature was not available for determinative purposes because the cultural conditions were not standard under such circumstances.

Hanging Drop Preparations (Twenty-one Days Old).—The appearances in quadruplicate preparations were the same. The center of the colony consisted of a mass of more or less detached arthrospores and chlamydospores. In the periphery the arrangement of the former into more or less definite hyphae could occasionally be made out and, furthermore, from place to place occasional narrower and still continuous hyphae were discovered. The latter were frequently studded with aleuries and became typical thyrses. It was not uncommon for some of the arthrospores to remain attached in series, giving rise to short moniliform stretches. In the most peripheral parts of the hanging drop, there were numerous small satellite colonies showing in principle the same features as were just described for the mother colony. There were no spirals, fuseau, organes nodulaires or grappes.



Fig. 3.—Fourteen-day cultures on glucose agar.

Mycological Summary.—Botanically speaking the organism is, of course, not *Achorion schonleinii*, but clearly trichophyton. This is true both of the gross and microscopic characters. It grew at first like *Achorion quinckeanum*, but eventually became folded in an exaggerated way (which we do not believe to be compatible with *Achorion quinckeanum*, at least as characterized by Sabouraud). Microscopically, too, it is incompatible with that species, failing to show the higher order of reproductive bodies and morphology of *Achorion quinckeanum*. It is emphasized that these hanging drops were prepared from colonies of the first generation, in which the factor of pleomorphism ought to be negligible, and the organs, therefore, truly representative of the species.

The characters, both gross and microscopic, are identical with some varieties which one of us secured from between the toes in other patients and has been constrained to diagnose as *Trichophyton interdigitale*, but we naturally hesitate to return this mycological diagnosis for a case with the clinical characteristics of favus so clearly present. To be more exact, the deeply depressed center of this strain reproduces most faithfully

the *Trichophyton pedis* which Professor Ota² sent the University of Pennsylvania from Japan, and which one of us had always regarded as a variety of *Trichophyton interdigitale*. The morphological variation for which the latter organism is notorious has been stressed by German workers, who designate the species as the "Kauffman Wolff"³ fungus and have already described a duvetuse variety, a powdery variety, a cerebriform variety, and a radially striate variety.

Inasmuch, then, as we have record of a *Trichophyton gypsum*⁴ having produced favus cups, we can see no deterrent to extending the possibilities to such a closely related organism as *Trichophyton interdigitale* is, at least microscopically, to the gypsum group. Under the circumstances one feels forced, unwillingly, to regard this strain as a member of that extremely variable group covered by the designation *Trichophyton interdigitale*. It is planned to cover the mycology of rat favus strains more comprehensively in a supplementary communication.

Clinico-Mycologic Reconciliation.—The disease favus depends for its autonomy largely upon the phenomenon of the favus cup or scutulum. The latter is quite a pathognomonic sign according to the accepted definition of the disease. It is the product of mass growth of fungus substance, but not of any particular species of fungus; as a matter of fact, no less than five or more different species have been incriminated in inducing the favus cup.

While this phenomenon is sufficient in itself to separate favus from ringworm, there are other features, such as its mode of growth in the hair follicle, its obstinacy, and particularly its tendency to residual scarring, which add to the considerations that justify giving this disease a separate designation.

On the other hand, and only incidental in our case, it must be remembered that the various favus species (achorions) do not invariably produce the favus cup; they may produce erythematous and crustaceous lesions which are not diagnosable from dermatophytosis or perhaps certain expressions of seborrheic dermatitis short of resort to laboratory methods. Conversely, under exceptional circumstances, certain of the dermatophytes as, for instance, *Trichophyton gypsum*, have been known to produce the favus cup; a strain isolated from sycosis barbae induced scutula in two mice and one man.

There can thus be no doubt about admitting this case as one of favus; it exhibited typical scutula, had the mouse-like odor, extremely slow growth, extraordinary resistance to treatment and was followed by atrophy of the skin. Furthermore, the crusts consisted of solid masses of fungus substance. The fact that the scalp did not become involved accounts, no doubt, for its present apparent cure.

The disease often limits itself to an irregular area several centimeters in diameter as it had done in the neck in this case. Ill



Fig. 4.—Ear of a white mouse inoculated from pure culture one month previously.

health is said to increase the rapidity of spread.

While favus is a disease of the cutaneous surface, it is possible in rare instances that the mucous membranes may become implicated. Kundrat⁵ reported a case of generalized favus in a patient dying subsequently from gastro-intestinal disease (gastro-enteritis favosa). It was found at necropsy that the favus fungus was present in the esophagus, stomach, and intestines.

Cats and mice are attacked by the disease and in many cases are responsible for its spread. In certain instances the disease is transmitted from one child to another, but much less readily than the commoner varieties of fungi such as the trichophyton, microsporon, and epidermophyton.

As to the identity of the fungus, the discrepancies in the way of accepting *Achorion quinckeanum* are as follows: (1) The higher organs, such as fuseaux, were not produced in our cultures. (2) Whereas heavy crusts grew on the experimental mouse ear, actual cup formation was not induced, although the lesion regressed spontaneously within about four weeks. (3) Cultures did not quite conform to the Sabouraud type grossly. Other workers have had similar discordant experiences. Dubois⁶ in reporting two cases from Geneva, preferred to refer his cultural difficulties to difference in medium rather than create a separate variety. Nor did his animals, although they developed crusts, ever go as far as cup formation. Both Howard Fox and Greenbaum have presented to one of us (F. D. W.) cultures which in one respect or another did not agree with Sabouraud's criteria and yet yielded classical cups on mice. Goldsmith has indicated, by written communication, that his cultures of *Achorion quinckeanum* did not run true to Sabouraud description.

The outcome of all this is that *Achorion quinckeanum* is, like *Trichophyton interdigitale* (Kauffman-Wolff fungus of the Germans) a highly variable form morphologically, one to which a number of varieties will have to be ascribed. The range of these varieties may finally prove to be so wide that, at least morphologically, *Achorion quinckeanum* will overlap or merge on occasion with varieties of the equally variable *Trichophyton interdigitale*. Such a connection would reconcile the "*Trichophyton pedis*—*Achorion quinckeanum*—scutulum formation on man—crust formation on mice"—discrepancies met in this experience.

CONCLUSIONS

1. In spite of proximity to Mexico, and accessibility from the Orient, favus appears to be rare in California. It is believed that this is the first case reported for California that is valid.

2. Since the fungus isolated was strongly pathogenic for mouse skin, suspicion is justified as to its identity with *Achorion quinckeanum*, the organism of mouse favus. Botanically, however, it behaved more like *Trichophyton interdigitale*, which would bring it into relationship with dermatophytosis of man and open new considerations for that disease.

3. If this strain be finally referred to *Achorion quinckeanum* (on physiological grounds) it is suggested that there are "varieties" of this species just as ones are claimed for *Trichophyton interdigitale*.

4. The source of this California infection, whether imported or from animals, could not be traced. Rats and cats come under suspicion.

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DISCUSSION

SAMUEL AYRES, JR., M. D. (2007 Wilshire Boulevard, Los Angeles).—I have never seen a case of active favus in my eleven years' residence in California, although I have encountered several patients with cicatricial scalps resulting from favus acquired in foreign countries, particularly Russia. With increasing economic intercourse with Asia it would not be surprising to see active cases from time to time.

The authors have rendered a valuable service not only in calling attention to the existence of this disease in a locality where it has hitherto been unknown, but especially in pointing out that the clinical picture of favus may be produced by a variety of organisms. This is analogous to similar observations with regard to other clinical entities due to fungi. The picture of epidermophytosis may be produced not only by any one of a half-dozen or more varieties of tinea, but also by fungi of entirely unrelated groups. We have seen several instances of typical "athlete's foot" in which *Monilia albicans* was obtained both by direct microscopic examination and by culture, and also several cases in which penicillium was the only organism found, and which formed colonies about each scale which was planted.

HIRAM E. MILLER, M. D. (384 Post Street, San Francisco).—I have seen three patients in San Francisco with extensive favus of the scalp: (1) A young Mexican adult who was deported because of his infection; (2) an Italian girl of eleven just returning from a stay of several years in China; and (3) a Chinese girl eighteen years of age, who had spent most of her life in China. The disease in all three patients was of

many years' duration, and had caused extensive scarring and alopecia. The causative organism in KOH preparation and culture was the *Achorion schonleini*. Animal inoculations were not done.

This report of Way and Weidman of a patient with favus-like cups of two weeks' duration from which a trichophyton was isolated is most interesting. I cannot see why it is reported as favus, however. I have always believed that favus was a disease caused by the *Achorion schonleini* or one of the other achorions. Sabouraud reports that 99 per cent of cases are due to the *Achorion schonleini*, and the remaining 1 per cent to other achorions. If a patient has a membranous sore throat and the diphtheria bacillus is isolated from it, the condition is diphtheria. If, however, a streptococcus only is found, it is a streptococcal sore throat. In this patient a trichophyton was isolated from an acute condition with favus-like cups. I would prefer to classify it as a trichophytosis with favus-like cups, even in view of the pathogenicity of the organism for mice.

The complete mycologic studies in this case are most interesting. This type of investigation, as carried out by Doctor Weidman, will help us to understand many of these unusual mycologic infections.

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ERNEST K. STRATTON, M. D. (490 Post Street, San Francisco).—During seven years of dermatological practice in California, I have not seen a case of fungus infection in the skin or scalp which I could clinically diagnose as favus. During two years of daily attendance in a large dermatological clinic in New York City, however, I saw many cases in which the diagnosis of favus was made on the basis of finding scutula which contained masses of mycelia and large spores, as demonstrated in KOH specimens. Cultures were not made as a routine procedure for the reason that it was generally believed that favus could be caused only by the *Achorion schonleini* or in rare instances by the *Achorion quinckeianum*.

From this case reported by Doctors Way and Weidman as well as the literature quoted by them, we learn that the trichophytosis as well can cause the clinical skin complex known as favus and that the achorions, on the other hand, do not always call forth this type of skin reaction, but may on occasions produce only erythematous scaly lesions characteristic of the trichophytosis.

This is a very interesting observation. The only accurate way to identify the species, of course, is by means of cultures; for practical purposes, that is curing the patient, this is not necessary; for research it is a fascinating study, one which most dermatologists wish they had the time and the necessary training to pursue intelligently.

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HARRY E. ALDERSON, M. D. (490 Post Street, San Francisco).—The clinical appearances in this case were quite typical of those seen in favus, so the mycologic findings rather surprised us. It is customary to name skin lesions in accordance with the clinical picture, so we prefer to call this a case of "favus." Doctor Ayres' remarks are much appreciated. It is significant that he has observed no cases in the large amount of clinical material that he has seen in southern California. Many others with whom we have communicated in the western states have had the same experience. Doctor Miller's comments are interesting. I am very sorry that he has never officially reported his cases, even though animal inoculations were not done.

This is the first active case of favus that I have seen in this part of the state during twenty-five years of dermatologic practice, although I have had numerous examples of typical old favus scars in my clinic. It is surprising that this is so when one considers the prevalence of the disease in the Orient and in countries south of us. It speaks well for the vigilance of our federal health officials.

CHRONIC KIDNEY INFECTIONS IN INFANTS AND CHILDREN*

REPORT OF CASES

By WILLIAM M. HAPP, M. D.

Los Angeles

DISCUSSION by Elmer Belt, M. D., Los Angeles; Glenn Craig, M. D., San Francisco; Donald A. Charnock, M. D., Los Angeles.

ACUTE pyelitis constitutes one of the most frequently encountered infections in infancy and childhood and its importance as one of the common causes of fever in female children cannot be overemphasized. It is not the purpose of this paper to consider the acute transient infections of the urinary tract, the so-called acute pyelitis. These respond readily as a rule to medical treatment and the subject has been sufficiently emphasized elsewhere. This discussion is limited to a consideration of some of the problems encountered in the treatment of chronic and recurring pyuria in children. These cases are often resistant to medical treatment. In many of them the infection is dependent on some obstruction in the urinary tract, either congenital or acquired, interfering with proper drainage of urine. In these cases the chronicity of the infection is due to stasis or renal infection, or a combination of these two factors, and the results of treatment are largely dependent on the degree and duration of the obstruction and of the infection. Early diagnosis is, therefore, highly important in order to obtain the most satisfactory therapeutic results.

PATHOLOGY OF PYURIA

It is generally agreed that the term "pyelitis," referring to an inflammation of the pelvis of the kidney, is unsatisfactory. Such a pathologic condition rarely exists without associated inflammation elsewhere in the urinary tract. The term pyuria, suggested by Chown, is preferable, as this term does not commit one to an anatomic diagnosis.

Chown¹ studied cases of so-called pyelitis which came to autopsy. He states, "The current conception of pyelitis is erroneous, leading to errors in diagnosis, treatment and investigation. All the evidence available points to the kidney proper as the usual seat of the lesion in cases of pyuria in infancy." The lesion, according to Chown, is a suppurative interstitial nephritis with secondary involvement of the parenchyma. The infecting organism, usually *B. coli*, produces an acute inflammatory lesion, characterized by edema and outpouring of polymorphonuclear cells, and, to a lesser extent, mononuclear cells with degeneration of the neighboring parenchyma and varying degrees of necrosis. These products escape into the tubules, drain thence into the pelvis, and so appear in the urine. The pelvis is apparently very resistant to infection.

It must be emphasized that the lesion here described occurs in the severe and prolonged cases

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of infection. The milder acute cases rarely come to autopsy, so that the exact histologic changes are still problematical.

Wilson and Schloss,² in a study of autopsy material from forty-nine infants and young children who showed pyuria during life, found in the majority a true suppurative lesion in the interstitial tissue of the kidney itself. In six patients no changes were found in the kidney, but a cystitis was present. The pelves were generally normal.

The method of infection in pyelitis has been the subject for much discussion. The organisms may enter the bladder by ascending direct route, by lymphogenous or by hematogenous passage. Helmholz and Amberg believe that the organisms enter the bladder by way of the urethra. There is good evidence to show that the bladder urine of the female infant frequently harbors *B. coli*. Helmholz and Amberg³ quote Schwartz, who reported *B. coli* in the bladder urine in sixty-three per cent of infant girls with diarrhea. Beer and Hyman⁴ state that colon bacilli have been found in the bladder urine of ninety per cent of normal female infants. According to Helmholz and Amberg,³ the infection of the higher urinary passages takes place through stasis, by ureteral reflux, or by passage of bacteria up the periureteral lymphatics and possibly up the lumen of the ureter. Stasis promotes the extension of the infection to the upper tract. It is well to inquire into the factors which produce stasis in the urinary tract.

MECHANICAL FACTORS WHICH PRODUCE URINARY STASIS

Various authors (Helmholz,⁵ Bugbee and Wollstein,⁶ Campbell and Lyttle,⁷ Bigler,⁸ Lowsley, Kingery and Clarke,⁹ Hunner and Wharton,¹⁰ Hunner,¹¹ and others) have called attention to the frequency of congenital and acquired lesions producing obstruction in the urinary tract. The accompanying diagram from Helmholz and Amberg³ gives the location of these obstructive lesions occurring in children.

Bigler in a study of 153 autopsies in children under four years of age found anomalies of the urinary tract in twenty cases. In only one of these twenty cases was the diagnosis made during life. Among these were thirteen cases of ureteral obstruction.

Campbell and Lyttle,⁷ in 2420 autopsies on children, found evidence of ureteral blockage in forty-seven, or 1.9 per cent. Some of these cases gave a history of recurring attacks of pyelitis from early infancy. They state that the ureteral obstruction may be due to stricture, calculi, kinks, reduplication and abnormal insertion, renal ectopy, ureteral spasm, intraureteral cysts and obstruction due to renal debris. The obstruction more rarely may be due to extraureteral pressure, as from tumor.

Strictures account for half the cases, according to Campbell and Lyttle.⁷ They may be congenital or acquired and they have a predilection for the pelvic and vesical insertion. They may occur at any point and may be single or multiple. As a

rule, the attention of the clinician is not drawn to these anatomical changes until infection has taken place. Evidence of infection leads to an examination of the urine, but repeated examinations of the urine may be necessary before infection is demonstrable.

Hunner¹¹ states that stricture of the ureter is a frequent cause of chronic pyelitis in children. He reported strictures of one or both ureters in eleven of twelve cases of chronic pyelitis. In his opinion these are more often acquired than congenital and are associated usually with foci of infection in other parts of the body. He quotes Schreiber, who found in one hundred consecutive unselected autopsies twelve instances of narrowing of the ureters. Urinary infections in such patients, according to Hunter,¹¹ usually clear up after dilatation of the ureter, unless the area of stricture persists due to some distant active focus of infection, or if additional areas of narrowing are present, or if there exists an unusually large pelvis which interferes with proper drainage through interference with effective peristalsis.

Valve-like obstruction of the posterior urethra in male infants constitutes the next most common congenital lesion. This condition has been described by Young, Frontz and Baldwin,¹² Kretschmer,¹³ and recently by Campbell,¹⁴ and others. The posterior urethra is obstructed by congenitally placed valves which interfere with the downward flow of urine. The chief symptoms are overflow incontinence and a palpable bladder. If not recognized early, an extensive hydronephrosis and infection develops. For detailed discussion of other congenital obstructive lesions of the urinary tract, the reader is referred to standard texts on urology.

LITERATURE ON PYURIA IN NEW-BORN INFANTS

Pyuria may occur in new-born infants. Sauer¹⁵ reported fifteen cases of neonatal pyelitis. Of these, two died; one, aged seven weeks, showed at autopsy a congenital stenosis of the right ureter; the other cases recovered; none were cystoscoped. Gastro-intestinal symptoms, anorexia, vomiting and diarrhea predominated; pallor and nervous irritability were also noted.

Graham¹⁶ reported six cases of pyelitis in the new-born, all of which recovered.

Grulee and Bonar¹⁷ state, "In the ureter of five per cent of the newly born infants, Jeanbrau has been able to demonstrate valve-like folds, remnants of fetal life, which cause partial obstruction of the lumen of the ureters. This valve-like fold is most commonly found at the uretero-pelvic junction. We have found it with surprising frequency at autopsy. It may be an important factor in the etiology of hydronephrosis and pyelitis."

Kretschmer¹⁸ in 1927 reviewed the question of urologic problems in infancy and childhood. He has reported a series of cases in which cystoscopic study was made, the youngest infant being twenty-seven days of age. He urged more frequent study of cases in children presenting urinary tract symptoms.

REPORT OF SERIES OF ELEVEN CASES OF PYURIA

Our experience in the past few years has led us to report the following group of cases in an effort to emphasize the importance of early recognition of the anatomical defect involved and mechanical treatment aimed at its correction.

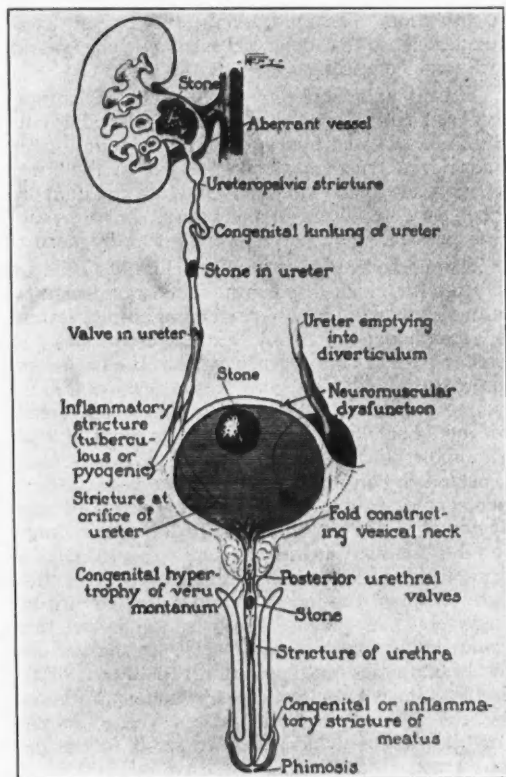
HISTORY OF CASES

CASE 1. Summary.—Congenital stricture of the left ureter at the uretero-vesical junction occurring in newborn female infant with symptoms developing at the age of twelve days. Diagnosis by cystoscopy at the age of three weeks; treatment by dilatation with recovery.

Case Abstract.—Female infant born November 21, 1928. There was difficulty in resuscitation after birth. The breathing was labored and the baby was cyanotic. Roentgen ray taken at age twenty-four hours showed an enlarged thymic shadow. Roentgen ray treatment was given and these symptoms disappeared. At the age of twelve days the baby developed a fever. Examination of the catheterized urine showed pus; there were no other positive findings. The baby was discharged from the hospital at the age of three weeks, at which time the urine still showed pus. On December 15, 1928, at the age of twenty-four days, a cystoscopic examination was done by Doctor Belt. The bladder was deep red throughout and the mucosa was covered with flaky pus. The ureteral orifices were edematous, but were readily entered. A catheter was passed to ten centimeters on each side. The urine showed pus cells and *B. coli* on culture. A second cystoscopy was done ten days later. The right ureter was readily entered, but the left could not be entered beyond one-half centimeter. The same condition was noted on the third cystoscopic examination January 10, 1929. On January 22, 1929, the operator was able to pass the obstruction. On February 19, 1929, the bladder was clear and catheter readily entered into both ureters. After this time the urine remained clear and the baby progressed normally on the breast. She is now two years four months of age and a normal child.

CASE 2. Summary.—Congenital stricture of the left ureter at the ureterovesical junction. Pyuria occurring in new-born female infant, with symptoms from the third day of life and pyuria on the tenth day. Cystoscopic examination on the thirteenth day established diagnosis; treatment by dilatation with recovery.

Case Abstract.—Female infant born July 5, 1928, at term. The birth weight was seven pounds, nine ounces. The birth was normal. At the age of three days the baby began to vomit on breast feeding. The stools were normal. At the age of nine days she developed a temperature of 102 degrees. Physical examination at that time was negative, except that the baby seemed listless and pale. She continued to vomit and to run a fever. Urine examination was made on the tenth day and showed pus. A blood count made the same day showed a slight leucocytosis, but no anemia. A congenital obstruction in the urinary tract was suspected and a cystoscopy was done by Doctor Belt on the thirteenth day. This examination showed an extensive cystitis with large areas of mucus covered granulation tissue in the region of the trigone. The right ureter was readily catheterized with a number five whistle-tip catheter, but an olivary tip catheter reinforced with wire was necessary to penetrate the left ureteral orifice. The catheter, after passing this point, passed readily into the pelvis and a rapid flow of thick urine was obtained. The cultures showed *B. coli*. Pyelograms showed no hydronephrosis. Following this, the patient's condition did not improve. She was toxic, her color was not good, and on the fifteenth day a blood transfusion of 100 cubic centimeters of whole blood was given into the superior



Various conditions that may give rise to urinary obstruction. (From Helmholtz and Amberg.)

longitudinal sinus. She continued to show an elevation of temperature, but her general condition gradually improved and the vomiting stopped. The second cystoscopic examination was done on the twenty-second day. The bladder was moderately inflamed. The right ureter could be readily catheterized, but the left could not be entered further than one-half centimeter. The baby was discharged from the hospital at the age of five weeks weighing three ounces over birth weight. One month later the left ureter was catheterized and infected urine obtained. The infection gradually cleared under cystoscopic treatment with dilatation of the ureter. The patient is now two and one-half years of age and in good physical condition, and has had no recurrence of pyuria or urinary symptoms.

CASE 3. Summary.—A congenital obstruction of the posterior urethra with stenosis of the right ureter at the ureterovesical junction. Symptoms developed during the third week of life, chiefly referable to the gastro-intestinal tract. Pyuria was discovered at the age of six weeks. Cystoscopy at six weeks of age with treatment and improvement.

Case Abstract.—Male infant, born at term. The birth was normal. During the third week the mother noted that the child was drowsy and would not nurse well. Once he fainted and was cyanotic, at which time he was taken to a hospital and an x-ray of the thymus was taken which was negative. An injection of salt solution was given. The baby had projectile vomiting. A few days later he had another fainting attack and the diagnosis of cerebral hemorrhage was considered. He was given another injection of salt solution, but he continued to vomit. He was admitted to the Children's Hospital, Los Angeles, December 15, 1927, at the age of six weeks, with the entrance diag-

nosis of pyloric stenosis. Examination at that time showed a fairly well nourished infant, weighing seven and one-half pounds. The physical examination was negative, the temperature was normal and blood count was normal. The urine was milky, due to the presence of pus. Culture from the urine showed staphylococcus. The condition of the baby was not good. He was vomiting and appeared drowsy. Roentgen rays of the kidney region were negative. Cystoscopic study was made by Doctor Belt December 29, 1927. A number ten French urethral catheter was inserted into the bladder. One-half ounce of urine flowed through, heavily clouded with flaky pus. The bladder was washed clear. Cystoscopic examination showed a valve-like obstruction in the posterior urethra. There was a cystitis and also stenosis of the right ureter at the ureterovesical junction. The patient remained in the hospital six weeks. Most of this time the temperature was normal with occasional rises to 102 and 103 degrees. The urine from both sides showed *B. coli*. Pyeloureterogram revealed an enormous hydroureter on each side with a dilated pelvis. The treatment consisted in dilating the urethra with destruction of the valve and ureteral catheterization with pelvic lavage. The ureteral catheterization was carried out, under gas anesthesia, at weekly intervals until the child was eight months old. The left ureter was readily catheterized at each cystoscopy and the urine from this side was always found to contain considerable pus and many gram negative bacilli. On account of a very tight stenosis of the right ureteral orifice it was very difficult to pass a catheter to this side. When this was accomplished a large amount of pale, pus-filled urine was obtained. The specific gravity of the urine was very low, being only 1000. During this period the child improved greatly in general health. The child was not examined again until September, 1929, at which time the right ureter could not be entered. Just before this examination he had two attacks of fever with pain and retention of urine. The patient is now three and one-half years of age and has continued to have occasional attacks of fever and pyuria. The general condition has been good. Ultimately nephrectomy will probably be necessary.

CASE 4. Summary.—Congenital stricture of right ureter at ureterovesical junction in female child. Symptoms existing from birth. Pyuria from age seventeen months with treatment. Subsequent attacks of mucous colitis, with recovery.

Case Abstract.—Female child, aged twenty-two months. She was breast fed for ten weeks, but cried constantly, especially at night, so she was weaned. Throughout the first year she cried a great deal, but gained normally in weight. There was moderate constipation. The night crying was believed to be a behavior problem. At the age of fifteen months the parents noted peculiar attacks of stiffening of the body, but there were no convulsions. At this time the parents also noted that the child seemed in pain and that she passed only small quantities of urine at frequent intervals. At the age of seventeen months she developed a diarrhea which lasted ten days. After this, straining on urination was noted and the urine looked cloudy. Urine examination was done at this time and showed much pus. The child then developed attacks of high fever with straining on urination. The pyuria continued in spite of medical treatment. At the age of twenty-two months a cystoscopic examination was done by Doctor Belt. This showed a stricture of the right ureter at the ureterovesical orifice with dilatation of the ureter and beginning hydronephrosis. The left ureter and kidney were normal. There was no pus in the left kidney urine. Following this examination the patient slept through the night for the first time in her life, but the fever persisted. The baby at this time was in good physical condition and there were no other positive physical findings. Repeated dilatations were done and the urinary infection cleared up. During the third year of life the patient developed frequent attacks of loose stools with mucous casts—

a mucous colitis. The urine at this time was negative. This condition improved under medical treatment. At the age of four and one-half years the child was in good health.

CASE 5. Summary.—Stricture of the left ureter at the ureterovesical junction, probably congenital. Symptoms from early infancy were mostly gastrointestinal. Pyuria associated with ileocolitis was demonstrated at the age of six years. Treatment by dilatation with improvement.

Case Abstract.—Female child, aged six years, was admitted to the Children's Hospital, Los Angeles, September 4, 1925, with the complaint of fever, intestinal trouble and loss in weight. The patient had had attacks of fever, vomiting, prostration and loose stools with mucus since early infancy. These attacks had been recently more frequent and severe. Enuresis was present. The tonsils and adenoids were removed six months prior to admission to the hospital. She had been in bed for four months with a diagnosis of chronic ileocolitis, secondary anemia and malnutrition. The urine during this time had been reported as negative, as were the tuberculin and x-ray examinations of the chest. Examination on admission showed malnutrition, moderate abdominal distention and a moderate secondary anemia. The urine showed always an occasional pus cell with occasional clumps and a trace of albumen. The stool was negative for parasites. Cystoscopic examination was done by Doctor Watkins on September 14, 1925. The urethra was entered normally. The bladder was large with some trabeculations. The trigone was normal. The bladder wall was injected. The left ureteral orifice was small and round; the right was larger than normal. A number six catheter was introduced into each ureter. The urine from both sides revealed pus and *B. coli*. On the second cystoscopy it was difficult to enter the left ureter at the ureterovesical junction, but the right was entered easily. The left ureter was dilated and the urine cleared and remained clear. The patient's general condition improved, but she continued to have occasional attacks of diarrhea with mucus. She was last examined on November 8, 1928, at which time the urine was normal.

CASE 6. Summary.—Chronic recurring attacks of pyuria associated with mucous colitis in a girl of eleven years, with symptoms from the age of five and one-half years. Cystoscopy showed no stricture, but *B. coli* infection. Instrumental treatment combined with medical treatment of colitis resulted in a cure.

Case Abstract.—Female child, aged eleven and one-half years. Since the age of five and one-half years she had been having recurring attacks of fever. These were sudden in onset and associated with malaise and pyuria. She was treated by an urologist who reported normal pyelograms. Physical examination February 27, 1927, showed a pale, slender girl with no positive physical findings. The urine showed pus and *B. coli*. X-ray picture of the gastro-intestinal tract showed that the barium meal emptied quickly with a spastic state of the colon. The blood count showed a moderate anemia. The phenosulphonephthalein output was eighty per cent in two hours. The blood nonprotein nitrogen was normal. The patient was treated by cystoscopy, which showed normal ureters and pyelograms, but a persistent *B. coli* infection on both sides. February 17, 1927, the patient developed diarrhea with mucous casts. Bed wetting was also noted. Medical treatment was directed toward the intestinal condition and an autogenous *B. coli* vaccine was given. The patient then improved and over a period of three years has been free from symptoms and the stools and urine have remained normal.

CASE 7. Summary.—Female child, aged three years, with symptoms from age twenty-two months. Cysto-

scopic examination showed stricture of the left ureter above the ureterovesical junction. Treatment by dilatation with recovery.

Case Abstract.—Female child, aged three and one-half years. She was said to have been normal during infancy. At the age of twenty-two months she fainted and her mother stated that she seemed to have pain at this time. Following this, she was never well; continued to wet the bed at night and urinated frequently. She was highly nervous and emotionally unstable and wakeful at night. She had attacks of fever at times. There were no gastro-intestinal symptoms. The urine was reported as negative. Physical examination February 7, 1928, showed a moderately undernourished girl. The tonsils were moderately enlarged, but there were no other positive physical findings. The urine examination showed pus cells in clumps. Cystoscopic examination was made by Doctor Watkins February 14, 1928. A small cystoscope entered the urethra without difficulty. The bladder walls were fairly normal. The right ureteral orifice was slightly contracted; the left was a mere pin point. A number five catheter entered the right ureter with difficulty, but the left could not be entered with a number four catheter. Two weeks later a filiform bougie was inserted into the left ureter, after which a number six catheter was introduced and a pyelogram made. The pelvis of the left kidney was normal. The urine culture was sterile. The patient was treated by a series of seven cystoscopic examinations between the above periods and December 14, 1929, with dilatation of the left ureter and pelvic lavage. At the last examination it was noted that the left ureteral orifice was larger than when previously examined and a number six catheter passed without resistance. Since that time the urine has remained negative and the patient has been free from symptoms. The tonsils and adenoids were removed in September, 1928. There has been an improvement in disposition, appetite, etc., and the child at present appears normal.

CASE 8. Summary.—Stricture of right ureter in three-year-old girl with symptoms from two years. Treatment with recovery.

Case Abstract.—Female child, aged three years. For two years the patient had been having frequent attacks of fever with frequency of urination which had become more marked recently. She continued to wet the bed and was restless at night. There were no other symptoms noted. Physical examination November 13, 1929, was entirely negative. Cystoscopic examination November 13, 1929, showed a stenosis of the right ureter at the vesical orifice. The urine showed pus and *B. coli* on culture. Treatment consisted of dilatation of the right ureter and pelvic lavage with one-half per cent silver nitrate. By December 11, 1929, the urine was negative and the patient was improved. January 29, 1930, the patient developed an acute attack of fever lasting one week, but the urine was negative. Subsequent examinations of the urine have been negative. When last seen in February, 1931, the patient's condition was improved and the urine was normal.

CASE 9. Summary.—Multiple strictures of both ureters in female child, aged six years, with symptoms for two years. Treatment by dilatation with recovery.

Case Abstract.—Female child, aged six years. For two years she had been having intermittent attacks with chills, fever, pain in the back and vomiting associated with anorexia. Pus in the urine had been found during these attacks. The tonsils had been removed without improvement in the patient's condition. Physical examination October 21, 1930, showed a thin, pale and undernourished girl. There were no other positive physical findings. Cystoscopic examination was made October 21, 1930, by Doctor Belt. The bladder appeared normal and the ureteral orifices were normal. A number five catheter hung in two or three places in each ureter. Retrograde pyelography Octo-

ber 21, 1930, showed that the pelvis were normal, but that the ureters were constricted in five recognizable places on the right and two on the left. The urine from both kidneys was infected with *B. coli*. Treatment consisted in dilatation of both ureters. Clinical improvement was immediate. The vomiting ceased and the temperature subsided to normal. By November 29, 1930, the child's color was better and improvement was marked. January 12, 1931, the urine still showed pus and bacteria, but the quantity was much reduced. January 24, 1931, the urine was negative. January 30, 1931, the child had measles and was severely ill with a recurrence of pyuria and urinary symptoms.

CASE 10. Summary.—Stricture of left ureter at ureterovesical junction in four-year-old girl, probably congenital. Infected hydronephrosis on left. Treatment by nephrectomy with recovery.

Case Abstract.—Female child, aged four years. Since early infancy she has been having attacks of high fever associated with vomiting. These had occurred at intervals of approximately once a month. Her color had been bad and she had nocturia. Her mother had noticed that the urine contained stringy gelatinous material. There had been no improvement on medical treatment. Physical examination November 29, 1929, showed a moderately undernourished girl. Her color was good. The tonsils were moderately enlarged. There were no other positive findings, except fever and pyuria. Cystoscopic examination was made November 29, 1929, by Doctor Belt. The cystoscope entered the right ureter easily. Urine from this side showed pus and *B. coli*. The operator was unable to enter the left ureter. Uroselectan pyeloureterogram showed a normal right side, but on the left a hydronephrosis and hydroureter. May 31, 1930, the left kidney was removed. A large hydronephrosis and hydroureter was found at operation. The patient made an uneventful recovery and the urine cleared of pus and bacteria. She was last examined February 18, 1931, at which time the urine was negative and her condition was good.

CASE 11. Summary.—Pyuria with stone in right ureter. Hydroureter and dilated kidney pelvis on right with pyelonephritis. Treatment by removal of stone with recovery from pyuria.

Case Abstract.—Female child, aged five years. For the last two years she had been having attacks of fever at intervals of one to three months. These attacks lasted several days, and during this period the child lost weight rapidly. There had been noted no burning, frequency or pain on urination. Two months prior to examination, pus had been found in the urine. Examination April 19, 1929, showed a healthy appearing child. The physical examination was entirely negative. The urine showed a moderate number of pus cells, very occasional red cells and no casts; the blood count was normal. X-ray, K. U. B. plate, showed an oblong shadow $\frac{1}{2} \times 2\frac{1}{2}$ centimeters along the course of the right ureter $2\frac{1}{2}$ centimeters above the right ureterovesical orifice. Cystoscopic examination was made by Doctor Belt April 19, 1929. This showed a normal urethra. Both ureteral orifices were normal in appearance, although the right seemed to bulge. A number five ureteral catheter passed freely to each kidney without encountering obstruction. Urine specimen from the right was bloody; the left was clear. The x-ray showed that the catheter in the right ureter was coiled about an oblong shadow within the ureter. Pyelograms showed a normal kidney pelvis on the left and a dilated pelvis on the right with ureteral dilatation down to $2\frac{1}{2}$ centimeters from the bladder. Urine from the left kidney showed no pus. The urine from the right kidney showed pus and bacteria. The following day the stone four centimeters long weighing 1.7 grams was removed from the right ureter. Recovery was uneventful and the urine gradually cleared of pus. Fever had continued at intervals lasting three to four

days at a time and reaching 102 degrees in the afternoon. During these spells the child is listless, sleepy and has flushed cheeks. Physical examination on these occasions has been negative.

COMMENT

In reviewing these case histories, one is impressed by the paucity of the symptoms referable to the urinary tract. Infants and small children do not complain of pain in the kidney region or on urination. Enuresis and frequency of urination are the most common urinary symptoms noted, and as these symptoms are frequently found in normal children, they are not of diagnostic importance.

Gastro-intestinal symptoms were present in nearly all cases and are the outstanding symptoms noted. Chronic recurring attacks of pyuria are generally characterized by attacks of fever, vomiting, listlessness and anorexia occurring at intervals of several weeks or months. Nervous symptoms as irritability, restlessness in sleep and behavior changes are common. Anorexia is nearly always noted. In the small infant the outstanding symptoms are vomiting, crying, abdominal distension, diarrhea and failure to gain. The association of attacks of ileocolitis or mucous colitis was present in several of the above cases. It is a question whether this intestinal condition is primary or secondary to the kidney infection. It was found in these cases that the urinary infection improved after treatment of the intestinal condition. The frequent association should lead to a careful study of the urine in all cases of recurring colitis in children.

Marked relief of symptoms was noted after removal of the obstruction in all cases. There was improvement in appetite, color and nervous stability. Relief from symptoms after treatment was noted in some cases, although the pyuria continued. The tendency of the infection to recur demands prolonged treatment over a period of years before the case can be considered cured.

In conclusion, it should be emphasized that the cases herein presented comprise a highly selected group of eleven cases of pyuria, ten of which showed anatomic changes in the urinary tract. Such anatomic changes are not present in all cases of chronic pyuria, but when present they usually respond to dilatation, provided the obstruction has not been present to such a degree that destructive lesions have taken place. The value of cystoscopy is emphasized in all cases of pyuria which do not respond to medical treatment and which persist for many weeks. Such cases are generally allowed to go too long on medical treatment. Cystoscopic examination is not recommended in the treatment of the ordinary acute transient pyelitis of girls. It is not possible to set an arbitrary limit to the length of time medical treatment should be continued. Each case should be considered individually, the history of duration being the most important factor. The age of the patient is of no importance in deciding on cystoscopic treatment. In this series the youngest patient was thirteen days of age when cystoscoped. General anesthesia is rarely necessary. Improvement in technique and in instruments by the urologist has made this

procedure available for pediatricians for use in selected cases. Instrumental treatment in skilled hands is harmless and may lead to the clearing up of chronic and obscure cases which will not respond to medical treatment. Many cases of chronic pyuria, without demonstrable obstructive lesions, clear up after ureteral catheterization and pelvic lavage. It is likely that partial obstruction, due to edema and debris, exists not infrequently, and this yields to the above treatment. Improvement of drainage and stimulation of ureteral peristalsis are the important results of correct instrumental treatment and are the chief factors responsible for the improvement in chronic pyuria in children. The removal of chronic active foci of infection elsewhere in the body and general medical care should, of course, accompany urologic treatment.

523 West Sixth Street.

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DISCUSSION

A. ELMER BELT, M. D. (523 West Sixth Street, Los Angeles).—Doctor Happ's paper is not a discussion of end results in morbid pathology; of structural alterations so advanced that the main point of interest lies in what an exaggerated picture the anticipated autopsy may reveal. It is an account of a far more difficult diagnostic feat: the detection in very young children of pathological changes in the urinary tract which are minute and just beginning but which are devastating if unrecognized.

These changes announce themselves in their own peculiar way but only to the prepared mind. Doctor Happ here gives us his diagnostic signs and the story of what the subsequent study revealed.

Early recognition is the important thing. The soft, yielding structures of the young child rapidly dilate and are destroyed under the damaging effects of back pressure and infection.

Instrumental relief is easily applied and is followed by thrilling results if the existing damage is not too great. The possession of only a moderate amount of skill makes such studies entirely without damage. Even anesthesia, except for topical applications, is not required.

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R. GLENN CRAIG, M. D. (490 Post Street, San Francisco).—That acute pyelitis is a common condition of childhood seems to be generally agreed, and any treatment, other than medical, is of recent origin. I think we are particularly indebted to Dr. William Happ and Dr. Elmer Belt for their thorough study of this condition in their effort to find the underlying cause. I know of few who have done more or better work on this subject.

I think we can all agree that, despite its frequency, pyelitis in children is an abnormal condition due to some abnormal underlying cause. The infection must take place either in a normal or an abnormal urinary tract. It is conceivable that a normal urinary tract may become infected when overloaded with large numbers of bacteria, or that where urinary stasis exists, leading to damage to the tissues of the urinary tract, a small number of bacteria may find a favorable environment, causing an infection. Heavy infection in the normal urinary tract probably is the condition present in the acute transitory urinary tract infections in children and should respond readily to medical therapy. Failure of the infection to respond to this therapy leads to a chronic condition, when other factors should be suspected. Recurrences of the infection, in the absence of any demonstrable focus, would also lead us to suspect that some abnormality of the urinary tract exists. The responsibility for determining the absence or presence of any abnormality lies with the pediatrician in conjunction with a competent urologist accustomed to dealing with children.

Doctor Happ has just pointed out the frequency of such lesions in selected cases, and has reported the gratifying results which have followed proper dilatation of the ureter. Experience will teach, as Doctor Happ has just pointed out, that symptoms caused by this condition are not always directly referable to the urinary tract. Undoubtedly, the infrequency with which this condition is recognized despite its frequency, is due to the unwillingness of the pediatrician to subject his patient to a cystoscopic examination, but with the improvement in the technique in children, I think he has much less to fear. I remember one extreme example of a little girl seen by a well known pediatrician. This girl weighed seven pounds at birth, gained normally for four months, and at the end of one year weighed six pounds. She had been treated medically for three months for pyuria before the pediatrician would consent to cystoscopy. Immediate improvement followed ureteral dilatations. This was five years ago, and I am sure no pediatrician would be so reluctant today.

You might ask when a cystoscopic examination should be recommended? We think it plausible to suggest as a working rule that all cases of chronic pyuria, that have persisted for more than six or eight weeks, or any case of recurrent pyuria, deserves a cystoscopic examination.

✱

DONALD A. CHARNOCK, M. D. (523 West Sixth Street, Los Angeles).—Doctor Happ has given us an excellent discussion on pyuria in children. His paper has emphasized the necessity for early recognition and accurate diagnosis of these urinary lesions in order that rational treatment may be offered.

For the urologist the study and treatment of urinary diseases of infancy and childhood offers a hopeful field of endeavor. Here we ordinarily see early pathological conditions which, unrecognized, progress to serious and not infrequently to terminal lesions.

The mechanics of urinary investigation have been brought to a high degree of usefulness. Instruments have been devised which offer the youngest infant possibilities of complete urological study and treat-

ment. The cystoscopist trained in the handling of children rapidly acquires a delicacy of technique which renders unnecessary the use of full anesthesia.

Urinary infections in childhood are too often neglected for lack of an adequate understanding of the primary pathology encountered.

CORONARY SCLEROSIS—AS SEEN IN A CORONER'S OFFICE*

By ADOLPHUS A. BERGER, M. D.
San Francisco

DISCUSSION by A. M. Moody, M. D., San Francisco;
Paul Michael, M. D., Oakland.

THIS paper will present a tabulation relative to coronary sclerosis as seen in a coroner's office for a period covering the past three years. The writer will give a résumé of its incidence, types, and will show slides taken from specimens.

In this summary, records have been made to include all types of coronary disease and to tabulate separately those cases in which the coronary disease was considered as the fatal cause; also those cases in which it was a complication of other diseases. The demonstrations include: (1) coronary thrombosis with myocardial infarction; (2) coronary sclerosis with occlusion; (3) luteic changes in the muscle including gummata; (4) nodular sclerosis with active mesarteritis; and (5) extensive degeneration of the myocardium secondary to coronary sclerosis and thrombosis.

There are also two interesting cases in which there was recanalization of the coronary vessels. Both of these cases have marked coronary disease with thrombosis, scarring and fibrosis. In either case there are noted some thirty vessels of various sizes within the lumen of a single coronary vessel. In both instances this process occurred in the left anterior branch.

The summary of the findings reveal that coronary thrombosis, at least coronary occlusion, is not an uncommon cause of death; that death may intervene in almost any state following the occlusion. By this I mean that in some instances there is noted a complete coronary occlusion *per se*; or a coronary occlusion with infarction; or a mural thrombosis; or myomalacia with marked muscle softening, or finally, spontaneous rupture of the vessel wall may be present. Some of the cases in which there was a spontaneous rupture of the heart wall have been reported elsewhere. Many of the cases considered here have been considered as the "prerupture" type. By that is meant that the findings are those commonly noted in spontaneous rupture except that death occurred, probably, before any rupture. In the cases noted above, most of the different types of coronary disease were noted. Thus there was the pipe-stem type, this type showing marked atheromatous degeneration with calcification; the type noted as the result of an inflammatory process suggestive of lues, and the nodular type of sclerosis.

From the records it is noted that practically eight per cent of all the natural-cause deaths, re-

* Read before the Pathology and Bacteriology Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

TABLE 1.—Coronary Disease as Seen in a Coroner's Office.—For the City and County of San Francisco.

	Year 1928			Year 1929			Year 1930		
	Number	Per Cent of Natural Deaths	Per Cent of Total Deaths	Number	Per Cent of Natural Deaths	Per Cent of Total Deaths	Number	Per Cent of Natural Deaths	Per Cent of Total Deaths
Total autopsies	1601	.....	.....	1537	.....	.....	1616	.....	.....
Accidents	482	.....	30	459	.....	29	513	.....	31
Homicides	35	.....	2.2	38	.....	2.5	39	.....	2.5
Suicides	246	.....	15.3	241	.....	15.5	260	.....	16
Abortions	7	.....	.4	15	.....	1.	7	.....	.5
Total natural deaths..	831	.....	51	784	.....	51	797	.....	49
Ruptured hearts	14	1.6	.8	18	2.3	1.1	11	1.4	.7
Ruptured aneurysms..	7	.9	.4	21	2.8	1.2	14	1.7	.8
Coronary sclerosis with occlusion	13	1.5	.8	18	2.8	1.1	26	3.4	1.6
Coronary thrombosis..	14	1.6	.8	21	2.3	1.2	30	3.9	1.8
Other natural deaths where coronary disease is present	360	46	.....	318	45	.....	345	44	.....

ferred to the coroner's office in San Francisco City and County, were absolutely due to coronary disease in some one or other of its acute or chronic manifestations. It was also noted that coronary disease was present to some degree in 50 per cent of all the natural-cause deaths referred to the coroner. The actual age average in those deceased persons in whom the coronary disease was the immediate cause of death was fifty-three years; and in those in which the coronary disease was present but not the immediate cause of death the age average was forty-two years, the ages ranging from twenty-six to seventy-nine years.

It was also found that the most common site of fatal coronary disease manifested itself in the left side of the heart, either in the septal branch or in the descendens branch of the left coronary artery. It is surprising to note that in this series this occurred in 88 per cent of all the cases in which death was due to coronary disease alone. None of the cases in this series showed blockage from fragments of valvular vegetations either at the coronary orifice or within the coronary vessel itself. In the series here reported, coronary occlusion was found to be almost always due to a thrombosis.

In the accompanying table are given some statistics from the coroner's office of the city and county of San Francisco for the past three-year period. It is rather interesting that the figures for the period of three years should be so much alike. However, the incidence of coronary occlusion has gradually increased so that in 1930 it was practically twice as prevalent.

202 Clement Street.

DISCUSSION

A. M. MOODY, M. D. (Saint Francis Hospital, San Francisco).—This report of Doctor Berger's on coronary sclerosis, as seen in a coroner's office is especially interesting to me, and is a valuable report from a statistical standpoint. It has been my privilege to

study, histologically, the coronary arteries and hearts of most of the patients included in this report.

This study has revealed the presence of recanalized (the healed occlusion of some previous thromboses) occluded coronary arteries more frequently than the literature would lead one to believe.

One of the unfortunate points in this work is the fact that complete histories of past illnesses and previous attacks of symptoms referable to the heart are not obtainable in the majority of instances.

However, we do feel that there must be many instances of occlusion of the septal branch of the left coronary artery from which individuals will recover and live for many years without symptoms of cardiac disease. A good collateral circulation is the important factor.

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PAUL MICHAEL, M. D. (Peralta Hospital, Oakland). This excellent paper emphasizes more than ever the importance of "sudden death" pathology, especially in relation to deaths due to cardiac lesion. The bodies of such patients come under the jurisdiction of the coroner's office, hence pathologists and clinicians generally, both in large medical centers and teaching hospitals do not have the opportunity of extensive observation on this subject. We are indeed fortunate and indebted to Doctor Berger for this study and compilation.

Many of the coronary lesions so observed give evidence of some chronicity, with peripheral vacuolar degeneration, fibrosis, and frequently attempts at canalization. Deaths in these instances are due to extension of the thrombus, occlusion of the vessel, or to sudden ischemia with relatively little obliteration of the vessel lumen. The fact that the septal branches of the descending branches of the left coronary are more commonly involved becomes of greater significance when one realizes that not only is the left ventricular wall attacked, but that the auriculoventricular bundle is usually involved. In these instances the crus commune of the bundle shows hyaline changes, with pyknosis and karyolysis of the cells, intracellular fat droplets, and actual intercellular hemorrhage.

That coronary artery disease in its most serious phases may be of long-standing duration, is seen in cases of rupture occurring without premonitory symptoms.

One additional interesting feature is that coronary artery disease, traditionally known as the particular property of physicians, is becoming an infrequent cause of death among the medical profession.

FREE SKIN GRAFTS OF LESS THAN FULL THICKNESS*

CAUSES FOR THEIR FAILURE OR SUCCESS

By JOHN HOMER WOOLSEY, M. D.
San Francisco

DISCUSSION by W. S. Kiskadden, M. D., Los Angeles;
J. H. Bryer, M. D., Pasadena; George Warren Pierce,
M. D., and Gerald B. O'Connor, M. D., San Francisco.

FREE skin grafts of less than the usual thickness, such as the "pinch" or Reverdin, the Ollier-Thiersch, and the split-skin¹ types are being used more frequently than ever before. Skin grafting for burned areas, ulcers, defects resulting from extensive surgery for malignancy, and for cicatricial defects, is being done earlier and more often, with a resultant saving in the cost of medical care, an earlier return to earning power, and increased comfort to the patient. The percentage of successful grafts, however, is entirely too low. From a cursory observation of clinics visited, in addition to fifteen years' observation, I estimate that only about 65 per cent of such skin grafts "take" successfully. In my opinion, a marked improvement in this percentage can be made by giving adequate attention to an often neglected but most important detail—the dressing.

SCOPE OF THIS PAPER

The source of the grafts, the surface to be grafted and its preparation, the method of taking the graft and its transference to the area to be grafted, the size and the depth of the graft are important, but discussion of these aspects is omitted purposely. Suffice it to say that autografts only are recommended; that an uninfected, nonweeping and nonbleeding, fine granulating or fresh surface, treated with physiologic salt solution, rather than with antiseptics, is preferred; that when a thick layer of dense granulation tissue is present, its removal by excision rather than by curetting gives the best result; and that immediate transference of the graft direct, rather than via intermediate salt solutions or allowing it to dry for an instant on rubber or cellophane patches, is most important. The size of the graft is not so important, provided that a sufficient number of buttonholes are made to allow the escape of any accumulating lymph that would otherwise float off the graft. The depth of the graft affects the final result in its cosmetic and functional aspects, but it does not affect the take.

THE VIABILITY OF THE GRAFT

A free skin graft lives a parasitic life for the first forty-eight hours, dependent upon absorption of plasma or lymph from the host. Capillary connection forms with the host's local blood supply and by the fifth day a graft, if successful,

will have a very firm attachment and a pinkish white or pink color. At times the epidermis will slough and disappear, thereby losing the usual opacity of the graft, suggesting a failure in the take.

However, by the eighth or ninth day, with proper atraumatic care and exposure of the grafted area to the air for from ten to fifteen minutes, there can be made out a dull, dry, smooth covering significant of a definite epithelial layer. The viability of the graft, therefore, depends upon the establishment of sufficient circulation and, in turn, the assurance of sufficient lymph and blood supply depends upon the perfect and continuous contact of the graft with its bed. *Constant and perfect approximation* of the graft is, therefore, the essential of all treatment at this stage. This is obtained by the proper choice and application of a dressing that prevents shifting or lifting of the graft from its bed. Too often after a skin graft procedure has been done with assiduous and painstaking care this most important step is left to an inexperienced intern or nurse. Collier² put it well when he said, "Other things being equal, the final result will vary with the technique of the postoperative dressing."

THE DRESSING

No single type of dressing is recommended above all others, but the object which any dressing should attain is definite. In my experience the moist or wet dressing has no uniform advantage over the dry. It is true, however, that when properly managed the wet dressing will remove the excess tissue secretion without trauma. On the other hand, wet dressings often are left as cold, soggy compresses that constrict the local vascular system and decrease the blood supply for the grafts. Pressure is valuable in holding the graft firmly against its bed, but is of slight importance in this type of graft since simple immobility and a proper field free from superfluous lymph or blood extravasation are sufficient to allow the graft a vital foothold. Thorough splinting of mobile areas, as in the region of joints, always should be done. Strapping the dressing in place is of utmost importance and should be so carried out that the adhesive tape is made adherent close to the grafted area, thereby permitting less motion than when strapped at a distance. Whatever dressing is employed, therefore, must achieve *constant and perfect approximation* of the graft to its bed.

The following types of dressings have been used with success:

1. Open air with screen protection.
2. Silver foil.
3. Vaseline gauze.
4. Paraffin spray.
5. Gutta-percha tissue in strips, with or without overlying wet dressings.
6. Paraffin gauze, with or without overlying wet dressings.
7. Cellophane, perforated, with or without overlying wet dressings.

* From the Department of Surgery, University of California Medical School.

* Read before the General Surgery Section of the California Medical Association at the sixtieth annual session at San Francisco, April 27-30, 1931.

8. Bland ointment.
9. Adhesive tape.
10. Suturing.
11. Sea sponge.
12. Synthetic or rubber sponge.
13. Vaseline gauze pack.
14. Mould (stent) sutured in place.
15. Tunnel graft.
16. Implantation graft.

The *open-air type of dressing* is obtained by the use of ordinary fly-screen cut and folded to fit, bound on all edges with adhesive tape, and anchored firmly in position by adhesive strapping. It should be maintained for approximately four days. This type of dressing prevents any contact of dressings to the graft and unless the graft is floated from its bed by blood or lymph it remains in constant and perfect approximation. It is of advantage over joint surfaces, the neck, the chest, and the abdomen where movement occurs. The cervical region is especially difficult to immobilize completely for the acts of swallowing, coughing, or sneezing allow uncontrollable movement and a dressing in contact with a graft in this area frequently will hold the graft adherent to it so that, when the bed moves, the blood supply is lost. Crusts tend to form about the edges of the grafts in a minor percentage of instances and for these, at the end of the initial four or five days, is recommended a dressing of sterile, bland ointment and warm, sterile, normal salt solution compresses alternated until the crusts soften and come away by themselves.

Silver foil, the most practical of the metal foils as a dressing, remains firmly in place, separates without the danger of lifting the graft from its bed, and possesses in addition some reputed antiseptic powers. The leaves of silver are applied in several layers, held in contact by repeated fine sprinkling with sterile normal saline solution, covered by a sheet of the intervening tissue paper, sponged down with normal saline; over this a layer of gauze is laid, and strapped firmly into place by adhesive tape. In the majority of instances this dressing can be left undisturbed until it automatically separates, but, under any circumstances, it should be left undisturbed for four days when it can be removed, if desired, by hot sterile salt solution compresses and ointment applications. This dressing is applicable to all immobile areas, as the hand, arm, chest, abdomen, and leg.

Vaseline gauze, consisting of strips of gauze impregnated with pure vaselin or, better yet, with vaselin to which has been added a small amount of paraffin, provides a very satisfactory dressing if well strapped in position. This should be changed in approximately four days, as a considerable amount of tissue secretion accrues and causes soggyiness of the underlying tissues. This dressing is adaptable to all immobile areas.

Paraffin mixture dressing is an excellent type for immobile areas. It is obtained by the application of layers of the paraffin mixture—the first

coat by spraying on and the later coats by brush, alternated with layers of gauze placed in a manner similar to the fabric in an automobile tire casing. The whole dressing is then anchored in position with adhesive tape, covered with cotton or some material to hold the body heat, thereby keeping the paraffin mixture in a flexible state, and bandaged securely. The grafts do not adhere to the paraffin mixture, as a rule, and the paraffin does not creep under the graft. This dressing usually should be changed on or about the fourth day, but may be left until the tenth day, depending upon the amount of tissue secretion present.

Gutta-percha tissue laid on in interlacing basket-weave strips; paraffin mesh; or perforated cellophane, when well anchored in place by adhesive, are all satisfactory for immobile surfaces. They are suitable for dry dressings and they have the added advantage that wet sterile compresses may be placed over them, thereby removing any excessive tissue secretion or desquamating epithelium without need of changing the material in immediate contact with the grafts.

Bland ointment dressings, such as two per cent xeroform in vaselin, boric ointment, etc., are preferred by some, but are not recommended because of the tendency to permit some shifting of the grafts; the possibility of ointment working under the graft edge; insecurity in pressure from the bandaging, and because they usually are accompanied by a greater tissue secretion and softening of the superficial epithelium of the grafts. It is true, however, that the grafts do not adhere to the dressing.

Adhesive tape gives immobilization, but the grafts often adhere to it and, with its removal, are torn away. It is mentioned only to be condemned because of this tendency. However, this type of dressing has its successes if it is left in place for approximately ten days, by which time the epidermis of the grafts has softened and loosened, and is removed only after the application of wet compresses.

Suturing the edges of the skin graft and, in instances of grafts larger than one inch in diameter, through the body of the graft as well, provides a more certain and constant approximation. This idea can be used with any of the several types of dressings and is recommended. The most satisfactory type of suture is that of an impervious material such as fine dermal or horse-hair.

The *sea sponge and synthetic (rubber) sponge dressings* are used chiefly in the skin graft of full thickness for pressure purposes and, while unnecessary in the skin grafts of less than full thickness, they may be employed with value over other dressings for immobilization purposes. If bandaged as bandages are usually applied, which is estimated to be five to ten millimeters of mercury pressure, they do no harm and will help to keep the grafts firmly against their bed. This method is best carried out by the use of pervious material such as perforated cellophane next to

the graft, covered by a few layers of gauze, then the sponge over this, bandaged into position. This type of dressing is adaptable to any area where bandaging to hold the sponge in place is practicable.

Certain *special pressure methods* which give complete immobilization for the free skin grafts of less than full thickness were developed during the war period by Esser³ of Holland and Gillies⁴ of England. They are applicable to areas irregular in shape, as between the fingers, the external ear, over surfaces that have movement such as the eyelids, in the lining of inaccessible areas such as the interior of the nose, mouth, anterior urethra, or external auditory canal, and about the mouth. In the latter situation there is not only movement, but there is also the menace of the buccal secretions and a soft area against which an ordinary dressing cannot be placed firmly. Dental compound is employed as a mould, for it is malleable with heat and can be fitted exactly to the area for skin grafting. Over this mould or stent the skin graft is draped, then inserted into the pocket to be grafted and held so by a few interrupted, nonabsorbable sutures running over the top of the mould from either side. Before taking the graft, if one wipes a thin coat of vaselin over the skin, sufficient to fill only the pores of the skin, the graft clings in a better manner to the mould.

The Esser inlay for widening the cheek is such a pressure dressing. It is accomplished by burying the mould covered with the skin graft in the cheek via an external incision, closing the incision completely, and five or six days later removing the mould through an opening from the buccal side of the cheek. The sulcus between the alveolar ridge and the cheek can be deepened for an artificial indentation by a graft over a mould placed in the raw area within the mouth and sutured firmly in place. In an inaccessible area needing an epithelial lining, such as the nostril, external auditory canal, or eye socket, a large graft can be held firmly and constantly against the area to be grafted by stuffing or filling the graft out with vaselin gauze. This gauze packing can be removed later with ease where a firm obturator, such as the dental compound mould, cannot. For hypospadias or epispadias the placing of a graft in the anterior urethra over a firmly fitted and immobilized soft rubber catheter insures perfect and constant approximation to its bed. These moulds, be they dental compound, paraffin, vaselin gauze, or rubber catheter, should be left undisturbed for approximately five days and, as a rule, are successful.

The *tunnel graft*,⁵ as devised at the Walter Reed General Hospital, is an adaptation of the Esser inlay. It is effected by tunneling through a band of tissue, such as an eversion of the lip or a contracting fold, then drawing into this tunnel a skin graft either over an obturator or not, and later, after five or six days, cutting through from the external skin surface to the tunnel-grafted

skin. The contracted area then unfolds and the deformed area is lengthened. This method is especially applicable to the everted lip for the graft for, thus buried, it is clear from drooling buccal secretions or contamination from food or drink.

The *implantation graft*⁶ is a very useful type and is accomplished as follows: millimeter-sized pieces of skin grafts of less than full thickness are cut, and these pieces are pushed down into the granulation tissue of an ulcer instead of being placed on the surface. This insures perfect and constant approximation of the graft to its bed and, as the islands of skin that arise coalesce, far earlier healing of the ulcer occurs. This method is especially applicable to leg ulcers in ambulatory patients and provides a means of skin grafting for patients in whom the usual surface measures are not over 25 per cent successful, under similar ambulatory treatment.

CONCLUSION

1. The successful take of a skin graft of less than full thickness is dependent upon the establishment of an adequate blood supply.
2. Holding the graft so that such an adequate blood supply may develop is a most important part of the procedure and is of sufficient importance to demand the care of the surgeon himself.
3. Various types of dressings are suggested, but they must measure up to certain requirements that will assure success.
4. *Constant and perfect approximation* of the skin graft to its bed is the essential requirement.

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DISCUSSION

W. S. KISKADDEN, M. D. (1930 Wilshire Boulevard, Los Angeles).—I am in complete accord with Doctor Woolsey's major argument that the success or failure of skin grafting is dependent upon a dressing that will hold the graft in firm, accurate apposition to the area to be grafted.

I do not believe, however, that one can segregate grafting as to treatment and dressing in groups limited merely to full and nonfull thickness grafts. For example, I feel that practically all Theirsch grafts should be held in place with dental modeling compound. This procedure eliminates buttonholing the graft for drainage, holds it immobile and in closer apposition to the area to be grafted, and may be applied to any portion of the body with equal facility. It has given me results infinitely superior and more constant than any other form of dressing. However, in using pinch, small deep or Reverdin grafts, the use of the various measures outlined in detail by the essayist are of value. In this type I prefer the use of perforated cellophane held in position with ad-

hesive and covered with a thin layer of gauze, and finally held immobile by a sea sponge. Pinch grafts require firm pressure to flatten them out and any dressing that loses sight of that factor will tend to lose a rather large percentage of grafts. Mention is made of the tunnel graft. These are of value in contractures and particularly in leg ulcers, where they may be used even in the presence of a dirty, grey, indolent, granulating surface. Their success here, I believe, is a direct tribute to the value of a firm dressing.

The author stated that pressure is of value, but that it is third in importance to simple immobility and a field free of lymph and blood. It seems to me that the latter two conditions may be usually obtained if adequate pressure is applied and, accordingly, I feel that it is, instead, the first and all important factor governing skin grafting.

I would urge, in the treatment of hypospadias or epispadias, the use of Theirsch graft as a last resort only and because no other tissue is available for flaps. Contraction, which is often as much as 60 per cent, will mitigate against good results. In the absence of suitable flaps the appendix may be used in these cases as a lining.

I feel a word regarding the dressing to be applied to the area from which the graft was taken is indicated. In Theirsch or split skin, it is my plan to paint the area with compound tincture benzoin and allow the dressing to stay in place without re-dressing for twelve to eighteen days, depending upon the depth and size of the raw area dressed. The skin underneath will be usually entirely healed in that time. This procedure obviates the frequent dressings when vaselin or a grease preparation is used. The use of three per cent xerform vaselin gauze in dressing the area following removal of small deep and Reverdin grafts will be found of value.

✱

JOHN H. BREYER, M. D. (701 Professional Building, Pasadena).—Doctor Woolsey has very thoroughly stressed the underlying principles of successful skin grafting. The merits and advantages of the various types of dressings have been fully evaluated. He has given us a logical and complete résumé. The reason why skin grafting is not more generally used is the uncertainty of results. I am much interested in the use of skin grafts following operation for carcinoma of the breast. We have all made the mistake of not removing enough skin. I wish to call your attention to an article on "Technique of the Complete Breast Operation," by Edwin I. Bartlett, M. D., of San Francisco, appearing in the January 1931 number of *Surgery, Gynecology, and Obstetrics*. In this article Doctor Bartlett gives an excellent description of the use of skin grafts in radical breast operations.

✱

GEORGE WARREN PIERCE, M. D., AND GERALD B. O'CONNOR, M. D. (490 Post Street, San Francisco).—The dressings and postoperative care of skin grafts are two very important points that cannot be over-emphasized if one is to culminate tedious work with a successful "take." We are quite happy to see that Doctor Woolsey stresses *constant and perfect approximation*. This, we believe, is the all-important factor in free skin grafts for it (1) promotes healing; (2) decreases oozing; (3) eliminates drainage; (4) inhibits infection; (5) prevents, to a degree, contractions; and (6) supplies rest to the healing areas.

It is not, however, a panacea for all the ailments that the surgeon doing the grafting falls heir to. One must have a thorough knowledge of the behavior of the skin, selectivity in the type of graft, physiological and anatomical knowledge of the base to be grafted, and a thorough conception of the types of dressings to be employed, considering the conditions at hand. No one procedure will suffice, so versatility in one's armamentarium will pave the way to success.

PREOPERATIVE MEDICATION*

By CAROLINE B. PALMER, M. D.
San Francisco

THE preoperative medication to be considered in this paper is limited to that which has a direct bearing upon the anesthesia—such pre-medication as may properly be regarded as a part of the anesthetic.

PURPOSE OF PREOPERATIVE MEDICATION

It is commonly conceded that the purpose of preoperative medication is (a) to prevent psychic shock, and (b) to regulate metabolism. These two objects accomplished, we have as a direct result (c) elimination of any stage of excitement, and (d) the possibility of maintaining a lighter degree of anesthesia or of using a less toxic anesthetic than would otherwise be required.

The final result is a better postoperative condition of the patient, greatly decreased postoperative discomfort, and delayed postoperative pain.

We frequently hear or read the remark that the perfect anesthetic has not yet been found. All of us admit the truth of this statement, but it is probably equally true that no single anesthetic agent will ever be found which can fulfill all of the requirements of a perfect anesthesia. It seems that we must rather look for the perfection, at which we aim, to properly selected adjuncts to the anesthetic agents which we already have. It does not seem reasonable to expect a balanced anesthesia by administering a single anesthetic agent any more than to expect a balanced diet by the use of one kind of food. The single agent may produce anesthesia, the single article of diet may satisfy hunger and both have the virtue of simplicity, but both fall short of meeting the reasonable requirements of the case.

In anesthesia, more perhaps than in most other medical matters, it is necessary to consider the patient as a whole. It is impossible, without inviting disaster, to ignore the mental and emotional sides of his being. Someone has said that the frightened patient is already half-shocked, and that statement is certainly more than half true.

Many of our foremost surgeons believe in pre-medication for especially nervous patients. Current medical literature is full of references to this subject, coming from all classes, from eminent members of the medical profession down to those who are engaged in propaganda for some one of the so-called basal anesthetics.

The fact of the matter is that all conscious patients, except infants, who come to operation without adequate preliminary medication are more or less apprehensive and many of them are actually frightened. It is also a fact that those who suffer most are usually not the ones who give the greatest outward evidence of fear and nervousness. This is shown in the course of the anesthesia. The patients who have a definite stage of excitement are nearly always the ones who sup-

* From the Services at Stanford University Hospital.

* Read before the Anesthesiology Section of the California Medical Association at the sixtieth annual session, San Francisco, April 27-30, 1931.

press every evidence of fear until their volition is abolished. This does not apply to alcoholics, who without proper medication almost invariably pass through a stage of excitement.

The result of preoperative nervous strain not only frequently causes a stage of excitement with its attendant dangers, but persists throughout the anesthesia, as evidenced by the character of pulse and respiration and by the fact that a much deeper anesthesia is required. Such patients are likely to have a stormy recovery with nausea and vomiting, partly due to nervous causes¹ and partly to the deeper anesthesia. The far-reaching effect of preoperative nervous strain may be seen in some instances of delayed convalescence or incomplete convalescence. Probably all of us have seen patients who became invalids after operations which were entirely satisfactory from a surgical standpoint.

Cannon has shown that actual physical changes may be caused by psychic shock, fear, and anxiety.²

Doctor Mehrtens has stated that, from a neuropsychiatric angle, he feels sure that fright, anxiety, and other emotional troubles previous to an operation tend to waste the energy of the organism in such a way that it is not available for the necessary expenditures incident to the operation and convalescence, and that this fact cuts down the margin of safety which partly determines the success or failure of an operation. When dealing with the class of individuals whose margin of safety is minimum, it is of the greatest importance to reduce the wastage of energy. Preoperative medication has its greatest sphere of usefulness in this type.³

Anesthetic deaths occur most frequently in minor operations on unprepared patients, and the lack of premedication may well be a factor.

NEED OF PREMEDICATION FOR CHILDREN AND THE AGED

Among those patients who suffer needlessly because of the omission of premedication are children and the aged. The belief is prevalent that because such patients are too young or too old to be given morphin that no preliminary medication is necessary. The young children who require repeated operations show their fear by an agonized wail the moment they realize that they are in the operating room. Life is a hard proposition to these little mortals at best, and the repeated periods of fear, growing worse with repetition, cannot do otherwise than cause great and possibly far-reaching psychic injury. The old people are quiet, but sometimes the expression of despairing resignation in their eyes would touch the heart of a graven image. Such patients, and all others, should be given the benefit of every preoperative measure that will in any way serve to abolish, or at least mitigate, their fear.

GOOD PSYCHIC STATE DESIRABLE

That patients may be brought to operation in the best possible psychic state requires attention to many details. From the moment they enter the hospital door they should receive courteous con-

sideration from every person with whom they come in contact. The surroundings should be as pleasant as possible. Much has been done in this respect in every up-to-date hospital, but I believe that all of us will agree that there is still room for improvement.

The preparation of the patient and the trip to the surgery should be made without any appearance of haste. The anesthetic room should be ready before the patient arrives. The excited scurrying about of nurses and orderlies to prepare the room while the patient waits where he can see and hear all that is going on is certainly not conducive to calmness of mind.

Keeping an already nervous and apprehensive patient waiting in the anesthetic room, or still worse, in the operating room, is one of the things that Dante did not know about or he would certainly have included it in his "Inferno."

Psychotherapy is a definite aid in the prevention of psychic strain, but its application is limited for obvious reasons.

Various means have been suggested as aids in bringing about a state of mental calm.

The influence of color is important and much good work has been done in determining what colors act as mental irritants. Certainly glaring white walls, white drapes, and a strong light make an unfortunate combination.⁴

A few surgeons and anesthetists advocate the playing of soft, soothing music during the induction of anesthesia, and some even favor having continuous music during operations under local anesthesia. Personally I feel that if I were taking an anesthetic and someone turned on a phonograph or a radio that I would rise right up and commit some act of violence.

A well-known anesthetist tried the experiment of singing to his patients while administering anesthetics. On one occasion he was giving straight ether to a child and was singing a selection which he thought would have the desired effect. After a moment the child looked up and said, "Please, Doctor X, won't you just give me the ether?"

All who are familiar with the conditions which obtain in any large hospital, even one of the best, must realize that it is absolutely impossible to protect patients from many influences likely to cause mental disquiet. If we are really to accomplish protection from psychic trauma, we are forced to depend largely upon premedication. Even in the rare instances in which it is feasible to control the mental and emotional faculties by means of psychotherapy, we should still usually need premedication for its effect upon metabolism.

SELECTION OF DRUGS FOR PREMEDICATION

This brings us to a question about which there is a wide difference of opinion—the rational selection of drugs for premedication. We must choose such drugs as will accomplish our purpose without adding to the patient's danger. In fact, the proper premedication should greatly increase the patient's safety.

Our knowledge of even the old, known and tried hypnotics and sedatives is insufficient. The

results of pharmacologic research are often contradictory, and in some of the work from which conclusions are drawn the dosage does not correspond to the therapeutic doses in man.

Undue enthusiasm for certain of the new so-called basal anesthetics has brought sorrow to certain members of our profession and distrust to many others. The high pressure salesmanship of various commercial interests has influenced some of us more than we would care to admit. To call a substance a basal anesthetic when it is not properly an anesthetic at all is misleading.

Of the drugs which have caused much discussion, the barbitals hold high rank. Their number is already great and the possible additional products from further chemical variations in the barbitol molecule is appalling. Doctor Hanzlik states that it has not been possible to amplify the margin of safety in therapeutic usage, as the activity of the derivatives has been increased. He believes that the claims of greater efficiency, usefulness, and safety for the new and exploited barbitals should not mislead anyone; that anesthesia may be attained by their use only at the expense of general poisoning, considerable circulatory collapse, and prolonged postoperative depression.

He approves of the proper use of barbitals for premedication, but believes that the official barbitol and phenobarbital can fill every legitimate use.⁵

In clinical work, the keeping of accurate and complete records and some plan for an extensive unprejudiced comparison of results would accomplish much.

The clinical experience of a large number of the foremost surgeons and anesthetists should be of value in determining the drugs or combinations advisable for premedication.

Many efforts have been made to obtain the opinions resulting from such experience.

NATIONAL ANESTHESIA RESEARCH SOCIETY QUESTIONNAIRE

In 1920 a questionnaire was sent to a group of hospitals by the National Anesthesia Research Society. Two hundred replies were received.

- 96 favored the use of morphin and atropin.
- 20 favored the use of morphin alone.
- 10 favored the use of atropin alone.
- 34 used other drugs not specified.
- 18 did not favor premedication.
- 22 had no records.⁷

In 1925 Dr. M. A. Slocum reported in the *Journal of the American Medical Association* the result of a questionnaire sent to one hundred leading surgeons. Seventy-three replied.

- 58 favored the preoperative use of morphin.
- 15 were opposed to the preoperative use of morphin.
- 24 favored its use in children.⁸
- 49 opposed its use in children.

In 1925 I sent letters to a large number of anesthetists asking for opinions based upon their personal experience in regard to premedication.

- 42 favored the use of morphin and atropin.
- 4 favored morphin alone.
- 22 favored scopolamin in some combination and reported satisfactory results.

10 reported bad results from combinations containing scopolamin, these being depression of respiration, excitement, collapse.

6 favored atropin alone in selected cases.

7 favored magnesium sulphate in some combination.

9 reported bad results with magnesium sulphate, these being depression of respiration and pain at site of injection.

The lower age limit for premedication was given as four to sixteen years, the majority favoring six to seven years.

STANFORD UNIVERSITY HOSPITAL QUESTIONNAIRE

In March 1931, the surgical department of Stanford University Hospital sent a questionnaire to five hundred representative surgeons and anesthetists. Three hundred and twenty-six replied. Three hundred and seven replies were tabulated.

Regarding premedication:

303 approved of premedication.

4 did not approve of premedication.

Regarding drugs:

283 approved of the use of morphin.

7 did not approve of the use of morphin.

212 preferred morphin and 43 preferred pantopon.

253 approved of the use of atropin.

32 did not approve of the use of atropin.

373 approved of morphin and atropin combined.

23 did not approve of morphin and atropin combined.

159 approved of the use of scopolamin.

117 did not approve of the use of scopolamin.

169 approved of the use of morphin and scopolamin combined.

113 did not approve of the use of morphin and scopolamin combined.

197 approved of the use of sodium amytal.

68 did not approve of the use of sodium amytal.

180 approved of the use of other barbitals.

86 did not approve of the use of other barbitals.

31 approved of the use of sodium bromid with barbitol.

263 did not approve of the use of sodium bromid with barbitol.

103 approved of the use of avertin.

90 did not approve of the use of avertin.

Regarding certain factors in premedication:

293 regulated premedication by age, weight, and general condition.

8 did not regulate premedication by age, weight, and general condition.

As to lower age limit:

22 gave nothing under 3 years.

49 under 4 to 6 years.

50 under 7 to 10 years.

41 under 11 to 15 years.

3 under 16 to 18 years.

No lower age limit, 133.

As to upper age limit:

9 69 years.

12 79 years.

22 above 70 years.

All others, no upper age limit.

ANALYSIS OF STANFORD UNIVERSITY HOSPITAL STATISTICS

The members of the anesthetic department of Stanford University Hospital have examined a large number of anesthetic records as to premedication:

22,579 cases before 1925.

19,951 cases since 1925.

17,353 cases before 1925 had premedication.

16,671 cases since 1925 had premedication.
 5226 cases before 1925 had no premedication.
 3280 cases since 1925 had no premedication.

The records before 1925 plus those since 1925 give a total of 42,530 records examined, and a total of 34,024 cases with premedication, and 8506 without premedication.

PROCEDURES IN THE PAST AT STANFORD UNIVERSITY HOSPITAL

Before 1925, the premedication was virtually limited to morphin and atropin or morphin alone, or in a very few instances (sixty-two) to atropin alone. In one small series of cases a combination of morphin and scopolamin was used. This was abandoned because of varying degrees of respiratory depression, some of which were alarming. Later we found that by making sure of fresh preparations of scopolamin the results were satisfactory.

Since 1925 the majority of patients have still had morphin and atropin, but there has been a growing conviction that neither this combination nor morphin alone affords sufficient psychic protection, and other drugs have been used with increasing frequency. Whatever has been given, however, has generally been combined with an opiate, as we feel that this is usually a necessary element in proper preliminary medication.

Crile says that the preoperative use of morphin serves the double purpose of diminishing the preoperative psychic strain and actually preventing, to some extent, the damaging of the organs of the kinetic system by the trauma of the operation.⁹ It is difficult to prove the second part of this statement, but our clinical experience seems to suggest its truth.

In 1929, we used sodium amytal intravenously for a series of cases as reported by Doctor Holman.¹⁰

The results of this series were eminently satisfactory, but as we recognize the objection to intravenous administration, we now give the drug by mouth.

THE USE OF SEDATIVES

As a good night's sleep preceding the day of operation is necessary in order that the patient's normal resistance may be unimpaired, a sedative the night before may be regarded as a part of the preliminary medication.

On the day of operation it is desirable to give a sedative some two hours before the event in order to abolish the dread which is otherwise likely to increase as the time of the ordeal approaches. Half an hour before operation, an opiate is given. Supposing the selection of drugs used and the dosage to have been correct for the individual patient, he should be asleep or at least drowsy and indifferent to his surroundings by the time that the dreaded trip to the surgery arrives.

The drugs and combinations used are shown in the slide in the order of frequency of administration.

Since 1925:

15,285 patients were given morphin and atropin.
 414 patients were given morphin and scopolamin.

196 patients were given barbital, sodium bromid, morphin, and atropin.
 172 patients were given barbital, sodium bromid, and pantopon.
 160 patients were given sodium amytal.
 68 patients were given barbital and pantopon.
 50 patients were given scopolamin and pantopon.
 36 patients were given pantopon only.
 35 patients were given luminal and morphin.
 20 patients were given barbital, sodium bromid, morphin, and scopolamin.
 17 patients were given pantopon and atropin.
 16 patients were given atropin only.
 38 patients were given other drugs or drug combinations.

The addition of sodium bromid to barbital by mouth as suggested by Doctor Emge has seemed to be a distinct advantage.¹¹

Beginning with January 1, 1931, we have been keeping a special postanesthetic record which, while time-consuming, is proving valuable.

COMMENT

We have found that by the method of premedication outlined, patients come to operation asleep or drowsy, that the course of anesthesia is better as shown by absence of stage of excitement, by better pulse, respiration and blood pressure, and by better postoperative condition with a definite decrease in nausea and vomiting.

In all honesty, however, we must admit that the general improvement in postoperative condition is not due entirely to proper premedication and improved methods of anesthesia. The increased gentleness in operative procedures which surgeons have developed is a vital factor.

CONCLUSION

There is definite need of individual attention in the matter of premedication. Accurate records and comparison of clinical results would be of value.

It is possible by the administration of properly selected drugs in correct dosage suited to the needs and the general condition of each patient to prevent preoperative psychic shock, to improve the course of anesthesia, and the postoperative condition of the patient.

In closing, I wish to express appreciation of the generous response to the questionnaire. Many of the comments are extremely valuable.

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THE LURE OF MEDICAL HISTORY

ESSAYS ON THE HISTORY OF EMBRYOLOGY*

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VI

THE controversy between the old evolutionists or preformationists and the epigenesists probably was not solely responsible for a long sterile period in embryology. Although the theory of epigenesis or evolution dated back to Aristotle and got support from the work on the incubating hen egg, of Harvey and Malpighi, the latter rejected it. It owes its final triumph to the brilliant work of Caspar Friedrich Wolff, who, according to Meyer-Steinegg and Sudhoff, was encouraged to reinvestigate the question of epigenesis by Haller. The publication of Wolff's "Theoria Generationis" as a thesis at the age of twenty-six years, in 1759 in Latin, and in 1764 in German, did not attract much attention, but a second publication of his entitled "Formazione Intestinorum," which appeared in 1768, finally discredited the preformation theory after it became known through its translation into German by Meckel in 1812. It justified the old Heraclitean doctrine, "All things are forever becoming, nothing ever is."

WOLFF AS FOUNDER OF THE GERM LAYER THEORY

By a very careful series of observations on incubating hen eggs, Wolff showed that the different organs are not present in the egg in miniature, but result from the growth, folding and fusion of a few strata which we now know as germ layers. Wolff traced and represented the development of the amnion, stomach, intestine, and the neural tube, and was the real founder of the germ layer theory. It was he who placed the theory of epigenesis on an unshakable foundation of direct observation and converted it into a law for many forms of beings at least.

Wolff stated that the different organs and organ systems are formed after each other, and declared that some organs which have a totally different function may, nevertheless, arise from the same germ layer, saying:

"It appears as though at different periods, and many times in succession, various systems might become formed after one and the same type, and as if they might be on that account similar to one another, even though they are in reality different. The system which is first produced, which is first to take on a specific form, is the nervous system. When this is concluded, then the fleshy mass, which really makes up the embryo, is formed after the same type; then appears a third, the vascular system, which certainly

... is not so unlike the first ones that the form described as common to all systems could not be easily recognised in it. After this follows the fourth, the intestinal canal, which, again, is formed after the same type, and appears as a completed independent whole, similar to the first three."

Wolff humbly and in a very exemplary way added that he was unable to see any of the causes which produce these changes, and that he therefore had nothing to say about them. Although his investigation of the development of the chick still is regarded as the most outstanding embryological investigation done up to that time, it attracted little attention at first, and the German edition of his observations, which was not published until forty-four years after the Latin edition, appeared some time after his death. As a result of Wolff's work, the theory of preformation was finally abandoned at the end of the eighteenth century except by a few, and has had only an historical interest since.

Wolff's earlier work, published as a thesis in his young manhood, has not yet received due recognition, for as stated by Gilis, he described globules in the homogeneous mass in which the embryo was formed, such as could be seen in young plants. This observation implied the discovery of the cell at least after the manner of Malpighi, and Wolff also saw blood islands and veins form in the same mass.

OTHER STUDENTS OF EMBRYOLOGY

Interest in embryology, as in other things, was not confined to any one country. John Hunter's "Anatomia uteri humani gravida" appeared in London in 1775, and Sömmering's "Incones embryon humani" in 1799. Oken's work "Ueber die Bildung des Darmkanals aus der Vesicula Umbilicalis" appeared in 1806, and it was not long thereafter before another epoch-making discovery was made by Heinrich von Pander, a young German of means and a pupil of Döllinger. Pander recognized the three germ layers in the developing chick, and published his monograph, with beautiful drawings by d'Alton, in 1817. According to Pander, "Whatever noteworthy may subsequently occur, it is never to be regarded as anything else than a metamorphosis of the blastoderm and its layers . . ." by folding.

Not long after Pander's publication, Purkinje discovered the germinative vesicle or nucleus of the hen egg in 1825. Since he found the germinative vesicle absent in eggs taken out of the oviduct, he concluded that it had been ruptured and that its "lymph generatrix" was mixed with the germs, thus explaining the term "germinative vesicle" and inaugurating the study of the maturation of the ovum which, however, was still unknown as a cell.

VON BAER, FATHER OF MODERN EMBRYOLOGY

Pander's publication was soon followed by that of another pupil of Döllinger, who is generally regarded as the father of modern embryology, Carl Ernst von Baer. He discovered the true mammalian ovum in 1827, displacing the Graafian follicle from its wrongful position, and clearing the way for an altogether better and different understanding regarding the sex cells. But we

* Author's note: I regret that my memory was truant in connection with a legend for the frontispiece from the Elzevir edition of Harvey, which appeared in the March issue of California and Western Medicine. My notes, accumulated in the course of years, contain a memorandum from Vlerodt to the effect that the Elzevir edition, which appeared in Amsterdam in 1651, also was issued with a London title-page. This makes it seem as though two London editions had appeared in that year.

*This is the sixth paper of a series of essays on this subject. Previous papers were printed in this journal as follows: Part I, in December California and Western Medicine, page 447; Part II, in January number, page 40; Part III, in February number, page 105; Part IV, in March number, page 176; Part V, in April number, page 241.

must not forget that the cell was not known until 1833, and that the recognition of spermatozoa and ova as cells was not realized until long thereafter. The cellular nature of the ovum was established by Gegenbauer in 1861, and although K  lliker had shown in 1847 that spermatozoa arise from cells, the spermatozo  n was not recognized as a cell till four years later, in 1865, when Hertwig declared it to be such.

The first part of von Baer's "Die Entwicklungsgeschichte der Thiere—Beobachtung und Reflexion," dedicated to Pander, was published in 1828, the second, in 1837, in incomplete form, and the concluding part in 1888, twelve years after his death. Von Baer's claim to fame rests not only on his discovery of the ovum. He carefully described the development of different organs from germ layers and showed that this form of development holds for many animals, thus raising this theory to the status of a law. Von Baer's observations were so accurate and complete, and his reflections so comprehensive and so sound, that they won general recognition. He also expressed the idea that embryos of the different species in the same group are more alike than the adult forms of these, and that the resemblances between related forms is greater the younger the embryos are, which is not always the case. He described four germ layers, failing to see that the middle layer or mesoderm includes two similar strata, the splanchno- and somatopleura. However, Pander's recognition of three layers was confirmed by Remak in 1845, and we speak of only three germ layers today—the ecto, endo, and mesoderm.

In the further development of the germ layer theory it was held that these layers are homologous throughout the animal kingdom, and that analogous organs in the adult must have arisen from the same layer. This idea stimulated an amazing amount of investigation in comparative embryology, and although the germ layer theory was found to apply in a very remarkable way to the ecto- and endoderm of most metazoa, there are exceptions even here, and the mesoderm which arises later than the other two layers does not have exactly the same origin in all forms.

The origin, identity, and the mechanics of the formation of the germ layers aroused a great deal of discussion. Much light was thrown on the problem by the study of the development of invertebrates and it was soon evident that these primary layers did not always arise in just the same way. Another interesting problem was the method of formation of the body cavity and upon this Balfour, Hertwig, Huxley, and Lankester threw much light by their studies upon invertebrates.

THE CELL THEORY

The fine advances made in morphology between the day of Wolff and von Baer could not well continue without the establishment of the cell theory and the development of technical procedures which enabled investigators to discriminate between cells of different kinds and trace their lineage and that of the differentiating organs which arose from them.

The discovery of the cell as the living structural unit of the plant and animal body in 1833 not only directed attention again to the nature of the sex cells, but raised anew the question of cell multiplication and division. Although Spallanzani, and especially Swammerdam had observed, and the latter also had represented, division of the fertilized frog egg, this process was first described more fully by two French investigators, Prevost and Dumas. However, the problem whether these cleavages represented cell formation remained unsettled for some time, for it was not easy to determine whether the germinal vesicle of Purkinje or the egg itself was the cell, and it may be recalled that von Baer compared the ovum with the vesicle of Purkinje. It is strange that Schwann, who had discovered the vegetable cell took no leading part in this matter, although this may have been due to his idea that cells were differentiated from a homogeneous layer or cytotblastema. However, the doctrine of Virchow, "omnis cellula e cellula," was finally established by Nageli in botany and by K  lliker, Reichert, Remak, and Leydig in zo  logy. Although leading botanists held that the nucleus disappeared and then was re-formed with each new cell division, anatomists, such as von Baer, Gegenbaur, Johannes M  ller, and van Beneden, held the opposite view. This was finally established and "omnis nucleus e nucleo" became a law in cytology as well.

It would be a mistake to conclude that the discovery of the cell resolved all difficulties. The problem of the origin of the cell itself remained as before. It will be recalled that Schwann thought that a place existed where cells were formed out of unformed material and that K  lliker showed that this was not the case in cephalopods. Although Swammerdam and Spallanzani had seen and represented cleavage in the frog egg, it remained for Reichert and Bischoff to show that the "segmentation spheres," or blastomeres as we now call them, really are cells, and the former showed that the different organs arise from these cells. Later B  tschli, Fol, Hertwig and Strassburger and others, confirmed the observation of Auerbach that changes occur also in the nucleus. Hence it became clear that cells also have parentage in other cells, but this does not imply that the sex cells themselves were henceforth regarded as cells. Although Coste had seen the segmented ovum in the oviduct in 1848, the real nature of the sex cells was not established for some time. Nor was it easy to establish that the cicatricula of Fabricius or blastoderm, alone gave origin to the embryo. It is true that Pander had recognized two layers in the cicatricula, but it remained for Remak to establish that it was in fact the source of all the germ layers, and that none of them arose from the yolk.

THE THEORY OF RECAPITULATION

Although the idea that the early stages in the development of mammals are very similar was an old one, it could not be established without a long series of careful observations and a painstaking analysis on many forms. The existence of a certain amount of parallelism in the develop-

ment of all mammals studied and the fact that the higher animals seem to pass through stages similar to those in which some of the lower stop, was emphasized particularly by Meckel in 1812, and led to the formulation of the theory of recapitulation by Johannes Müller in 1863. The idea that the course of development of the higher forms repeats that of the lower had been suggested by von Baer and Agassiz, and greatly stimulated investigation in comparative anatomy and embryology. It resulted in the accumulation of an amazing number of observations, many of which were brought together by a young British genius, Balfour, in his comparative embryology published in 1880-1881. This undertaking was enlarged in the extensive treatise on comparative embryology by Hertwig, published in 1906, which contains a fine historical introduction and a general review of the literature in embryology.

Although the idea that ontogenesis exactly repeats phylogenesis had to be greatly modified later on, it was one of the most stimulating ideas, and also helped to explain variations commonly known as atavisms—the survival of structures possessed by an alleged remote ancestor, such as the milk line, the gill slits, the nucleus pulposus, a tail, a Darwinian tip, etc.

Attractive as the theory of recapitulation may seem, were it uniformly valid it would imply that our ancestors must have been bisexual, for the male possesses rudimentary female organs, such as nipples, and the female, rudimentary male organs, such as the clitoris. However, the ductus Botalli, the gill slits, the milk ridge, the yolk sac, etc., in man and such structures as the embryonic teeth in whalebone whales, seem to be examples of recapitulation, for the presence of these things in embryonic stages of higher forms is difficult to explain except upon the assumption that they represent vestiges of organs that were present in some ancestral form.

WORK OF HIS, BORN, SCHULTZE, AND SPALTEHOLZ WAS OF IMPORTANCE

Although development of the outer form of embryos could be followed easily by inspection, or by a record made by hand or by photography or by anthropometry, the development of the internal organs and their relationships was too intricate a matter to be followed satisfactorily in this way. Hence relatively little progress was made with these difficult problems in morphology until a sufficient advance had been made in the technique of preservation, embedding, sectioning, and mounting serial sections. These things alone made it possible to unravel the inner architecture of embryos, and the ingenious method of cutting specimens by the microtome devised by His and of reconstruction devised by Born were most important advances, for they enabled anyone to reproduce both the external form and the internal structure of entire embryos or of any part thereof with great accuracy. Later photographic methods of reconstruction and the invention of the Schultze and Spalteholz methods of clearing embryos and fetuses placed further very useful means in the hands of embryologists. Without these technical advances recent rapid progress in morphologic embryology would have been im-

possible. Although we have been unable to gain much insight into the causes of development, we now know a great deal about how things happen in a large number of forms. The chief obstacle at present often lies in the expense or difficulty, or both, of obtaining the necessary early stages, and this remains true especially regarding man himself.

The later and more recent contributions to embryology have been many indeed, and have given us a fairly detailed knowledge of the story of development of most of the organs in a number of different forms. The comprehensive treatise on the embryology of the vertebrates by Hertwig, and that of Korschelt and Heider, in two languages, on invertebrates, furnishes a fair idea of the status of that subject at the time of its publication, and the "Manual of Human Anatomy" by Keibel and Mall furnishes similar information regarding the status of human embryology at that time. Since these works were published, much progress has been made, although the attention of most anatomists has of late been devoted to other things than morphologic embryology. Although the earliest stages in human development remain unknown to us, clinicians are now alive to the situation and are coöperating with anatomists in such a way as to suggest that these stages will probably be known before many years, and no one doubts that they will closely parallel similar stages in the higher mammals.

A considerable number of young human embryos are known by letters or names, and really are famous in embryology. We speak of the Coste, Reichert, Graf Spee, Peters, Bryce-Teacher, Leopold, Thompson, Eternod, Miller, Mall, and Mateer embryos, for example, because the individuals named obtained or described them carefully.

One of the important questions connected with all these embryos was that of their age, and practically all of them were at first believed to be younger than they actually were. This is due to the fact that the exact times of ovulation and fertilization are unknown. We do not yet know how long a time supervenes between ovulation and fertilization and between the latter and implantation or conception. Although the true age of an embryo begins with the zygote, it has been customary to think of it as beginning with implantation. We have data regarding these matters in a number of laboratory animals, but they remain undetermined regarding man. Because of this lack, an attempt was made to extend the curve of prenatal growth in man downward to the beginning, but this could only be serviceable if the rate of growth during prenatal life were constant, which is not the case.

It is extremely regrettable that it is so difficult and so expensive to obtain embryological material from man's nearest congeners, the chimpanzee, gorilla, and the orang-ou-tang; or to use these animals for experimental purposes in embryology. However, now that it has been found that the chimpanzee can prosper in a northerly climate, it is possible that it will contribute much in the near future toward the solution of problems in human embryology.

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CLINICAL NOTES AND CASE REPORTS

AN APPARATUS FOR APPLICATION OF HEAT IN THE TREATMENT OF GONORRHEA IN THE FEMALE

By H. M. KANNER, M. D.
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IN the past few years the prolonged application of heat has become one of the most important features in treating gonorrhea. A number of complicated devices (1, 2, 3) are being used for this purpose.

The accompanying illustrations show a very simple and inexpensive method of applying prolonged heat, with the added advantage of drainage. There are two pieces of apparatus—one for the office, and the other for home use.

In the office treatment the patient is placed on the table in the lithotomy position and on a level with the lavatory (Fig. 1). The irrigator is inserted into the vagina and is held firmly against the vulva by the patient, so that there is very little spill. The cold water is then turned on gently until a very small stream comes from the outlet. The hot water is turned on slowly, gradually increasing the temperature until it is as hot as the patient can stand. The rise in temperature is noted on the thermometer in the flask and is the guide for adjusting the flow so that the temperature can be kept at a fixed point. The patient soon learns to tolerate a temperature of from 118 to 120 degrees Fahrenheit over a period of twenty-five to thirty minutes. By this method heat is applied directly to the cervix and vagina with constant irrigation.

When the patient has become accustomed to the office treatment she is instructed in the use of the simplified apparatus for home treatment, as shown in Figure 2. She is instructed to lie in the bathtub with the thighs against the abdomen and the heels on rail of tub, with the hips elevated. This balloons out the vagina by putting it in a per-

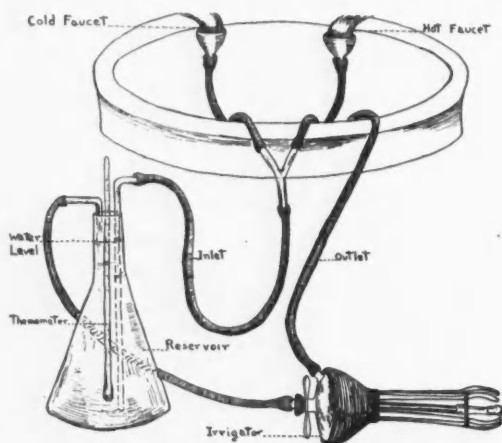


Fig. 1.—Apparatus for office treatment.

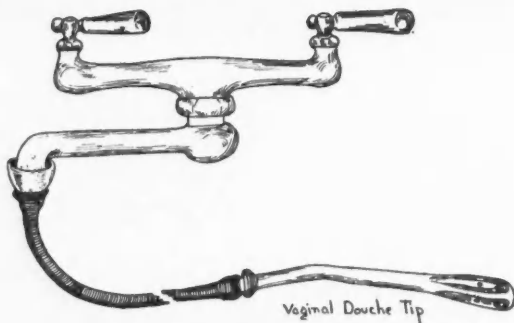


Fig. 2.—Simplified apparatus for home treatment.

pendicular position and allowing air to enter. The tip is inserted into the posterior cul-de-sac. The patient, having experience in the office, is instructed to begin the home treatment with a small stream of cold water, just enough to cause an overflow from the vagina, then to increase the temperature gradually with the hot water, thus having a continuous irrigation without force and applying direct heat to all parts of the vagina. These treatments are taken at home for fifteen minutes twice a day, or as indicated.

Due to the direct connection, with no mixing chamber or thermometer for a guide, the patient is warned of the possible danger of a too sudden rise in temperature and is cautioned to be careful and increase the temperature very gradually.

This type of treatment supersedes (1) the use of tampons which are obnoxious and interfere with drainage, (2) the one or two-quart douches which do not provide enough heat or drainage, and (3) the old Sitz baths, which are weakening and depressing. In comparison, the patients favor the prolonged irrigations with heat.

COMMENT

The ideal treatment of gonorrhea today is based upon:

1. The application of heat, with drainage.
2. Elimination of foci of infection in the cervix and in Skene's and Bartholin's glands by either cauterization with actual cautery or endothermy or removal by surgery.
3. Prevention of reinfection.

Medico-Dental Building.

RELAPSING FEVER

REPORT OF CASE

By ARTHUR E. VARDEN, M. D.
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MEADER¹ in 1915 reported the first cases of true relapsing fever arising from a focus in this country. Two years later Waring² reported a case in a twelve-year-old boy from the same focus at Bear Creek, Colorado. Briggs³ in 1921 reported the first proven cases occurring in California, although there had been an epidemic among the Chinese population of Oroville in 1874. These cases are somewhat doubtful, however,

since an absolute diagnosis was impossible at that time. Weller and Graham⁴ in 1930 definitely proved the transmitting vector to be a tick in their patients from Texas. So far they are the only ones to prove the transmitting agent in the cases occurring endemically in this country.

Since Waring's patient is the youngest recorded in the literature, a case occurring in a young child, arising from a focus in Southern California, seems important enough to warrant reporting.

REPORT OF CASE

J. B., male, five and one-half years old. The family history is significant in that the father has arrested pulmonary tuberculosis, which has been active during the life of the patient although due precautions were taken. The father also has hay fever.

For six months, during the winter, the family lives in Tucson, Arizona. The other half of the year is spent in Big Bear Valley, California. With the exception of an occasional "upset stomach," associated with fever as high as 102 degrees, lasting for a day, the past history is irrelevant.

Shortly after the patient's arrival in Big Bear Valley this summer, he experienced one of these attacks of "upset stomach." The boy recovered in the usual length of time and remained well until about ten days later, when he did not act or feel quite as well as usual. Three days later he complained of pain in his left elbow joint. (He had complained of a similar pain in his ankles some months before.) The following day, June 6, his temperature was taken and found to be 102 degrees (M). He vomited once and seemed quite ill although his mother thought it was another attack of "upset stomach." At four o'clock the same afternoon, he had a generalized convulsion, temperature 103 degrees (A), and he vomited again. Following this he fell asleep. His only complaints were headache and malaise.

I was called by Dr. J. A. Wallace of Big Bear Valley, and saw the patient for the first time at nine o'clock that night. Shortly after I arrived he had a generalized, epileptiform convulsion, lasting several minutes. Temperature was 105.6 degrees (R). He had taken but little fluid, and had voided last at three o'clock on that afternoon.

Physical examination at that time revealed an extremely toxic, irrational, slightly thin boy with flushed face, dry, parched lips, obviously acutely ill. Skin was moderately dehydrated. Nose showed allergic rhinitis with some secondary infection, but not enough to account for the temperature. Mouth was dry and coated with many white pin-head sized elevations scattered throughout. The tongue had a thick gray coat. Tonsils were small and not infected. Reflexes, hyperactive and equal. Eye grounds were negative.

Lumbar puncture was done and the fluid found to be clear and under normal pressure. Three lymphocytes were found on microscopic examination. Pandy test negative.

During the night the child was very restless and at times irrational. Temperature gradually came down to 103 degrees, where it remained. Despite adequate fluid intake, the boy voided but once during the night, involuntarily, although he had frequent desire, urgency, and made several unsuccessful attempts.

Early the next morning he was taken to the Redlands Community Hospital. On the way down he had two "fainting spells."

On admittance to the hospital he still appeared somewhat toxic, but was rational and in general seemed improved. Shortly after his arrival he voluntarily voided a small amount of urine. Physical examination was the same, except for moderate abdominal distention; and the bladder was found to reach a point almost as high as the umbilicus. Blood pressure was 98/65. A nose and throat consultation confirmed the above findings in these structures.

The patient was catheterized and 150 cubic centimeters of urine were removed, bringing the bladder

to a point just above the symphysis. The urine was negative except for 3-4 w. b. c./h. d. f. (8-10 w. b. c./h. d. f. uncatheterized). After a urologic consultation, it was decided to drain the bladder flat, but before this could be done the patient started voiding; and following a hypodermoclysis of 400 cubic centimeters normal saline and 300 cubic centimeters of 10 per cent glucose intravenously, he had diuresis. At three o'clock that afternoon his temperature became normal and he seemed greatly improved except for the abdominal distention, which was not relieved until that evening, despite stipes and a rectal tube.

The laboratory work completed was as follows: Blood: Red blood cells, 5,280,000; white blood cells, 16,850. Differential: Polymorphonuclears, 91 per cent; small lymphocytes, 2.5 per cent; large lymphocytes, 4.5 per cent; transitionals, 2 per cent; myeloblasts, 1 per cent. No parasites seen. Blood taken while temperature was coming down—at 102 degrees. X-ray of chest was negative. N. P. N., 39 mg. per cent.

Except for looking somewhat pale and weak, he seemed well and remained afebrile until early in the morning of June 8, when the temperature went to 105 degrees, falling sharply to normal at 11 a. m. Except for headache he had no complaints. The only change noted was a greatly decreased toxicity, as compared to the first attack, and a barely palpable spleen.

Malaria was considered, although the chance of infection was slight. Blood taken with the temperature coming down (102 degrees R): White blood cells, 4,600; polymorphonuclears, 54 per cent; small lymphocytes, 30 per cent; large lymphocytes, 10 per cent; transitionals, 4.5 per cent; myeloblasts, 0.5 per cent; eosinophils, 1 per cent. Negative for parasites.

The patient again seemed over his infection and remained well until five days later, when on June 15 he started a more gradual rise in temperature. Smears were taken while the temperature was going up, and no parasites or spirochetes were seen. White blood cells in the five-day period had remained between 4,300 and 5,400, with the polynuclears and lymphocytes about equal. Smears negative except for basophilic stippling of the red cells. The eosinophils increased to 4.5 per cent. Temperature reached a peak of 104.5 degrees. The white count increased to 8,850, with 67 per cent polymorphonuclears. The hemoglobin was found to be 71 per cent (N) where formerly it had been 80 per cent. The basophilic stippling showed a definite increase. The spleen, which had remained the same size, increased in size with this attack so that it could be felt one finger below the costal margin. The edge was round and soft.

Additional laboratory work was done as follows: Serum agglutination negative for *Bacillus melitensis*, *Bacillus abortus*, typhoid, and paratyphoids A and B. Cultures were made from the urine, stool, and blood, but were all negative. Urine negative except for an occasional trace of albumen and an occasional w. b. c. The stool was negative. Tuberculin 0.1 milligram intradermally, human and bovine, were both negative.

Because of the patient's well-being between attacks, the gradual decrease in severity of the symptoms with each subsequent attack, and finding the disease occurred in Southern California, we were led to consider relapsing fever, in spite of the fact that no spirochetes had been found in smears taken with the temperature going up. The following day, June 16, while the patient was afebrile, one spirochete was found in a routine smear. I was unable to demonstrate it to Dr. A. H. Zeiler for confirmation, however.

Subsequently the blood picture became normal except for a slight anemia. The boy's general condition improved more than it had between previous attacks, and his spleen became barely palpable, so that it appeared as if the disease had run its course.

Four days later, however, on June 19, his temperature started going up late in the afternoon and reached a peak of 104.2 degrees at midnight. He again complained of headache, and his spleen enlarged to where it could be felt two fingers below the costal margin. Spirochetes of relapsing fever, *Borrelia recurrentis*, presumably the North American type *B. novyi*, were found in both fresh and fixed smears taken while the

temperature was going up. All of the previous smears have been carefully restudied and no spirochetes could be found.

The following morning, as the temperature was coming down, 0.15 gram of neoarsphenamin was given intravenously. Twenty-four hours later he had a mild reaction, with fever of 102.8 degrees and headache. The spleen remained unchanged, and no spirochetes were found.

We planned to repeat the drug in four days, and at the appointed time, June 24, his temperature started going up, which gave the exact opportunity we wanted for treatment. He complained of headache, his spleen which had decreased in size became larger, and, interestingly enough, a spirochete was found by accident in a routine smear. The same dose of neoarsphenamin was given and repeated three days later. The course was uneventful following the second injection, and the spleen could not be felt two days later, June 26.

COMMENT

Briefly the interesting points in this case are as follows: leukopenia (with the exception of two of the counts given above, other counts too numerous to include) where textbooks give leukocytosis. Absence of muscle pain, usually an outstanding symptom of the disease. The absence of spirochetes during the febrile stage and the presence of them on smear during an afebrile period, which is relatively common in children.⁵ The attacks were much shorter, twelve hours and less (except in the first one) than the usual two to seven days' duration. Finally the toxic symptoms, abdominal distention and the suppression of urine, two of the most severe toxic symptoms⁶ of the disease.

I am indebted to Dr. A. H. Zeiler of Los Angeles for confirmation of the diagnosis and advice in treatment.

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THERAPEUTIC FEVER IN THE TREATMENT OF CHOREA

REPORT OF CASE

By J. M. FRAWLEY, M. D.,
MILTON PEPPER, M. D.,
AND
L. E. WATKE, M. D.
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CHOREA may be grouped with certain other childhood diseases, as a rheumatic infection. In this group, Smith and Sutton¹ include acute rheumatic polyarthritis, chorea, carditis, recurrent sore throat or tonsillitis, subcutaneous nodules, growing pains, and certain skin lesions. These are called rheumatic infections because they exhibit a tendency for the heart to become involved sooner or later.

The child with chorea presents a well known picture. There are constant purposeless movements of the extremities. The face is often expressionless. The child grimaces and has difficulty in speech. Voluntary movements are impossible.

The pathology of chorea is not definitely known. In those few cases examined at autopsy, hyperemia—with thromboses in the engorged vessels—has been observed. There are round celled infiltrations about the smaller vessels. These changes are of similar nature to the vascular changes in acute rheumatic fever.

The traditional treatment of chorea by rest and sedatives has not been satisfactory. Lately there has been renewed interest in the treatment of this disease, since it was found by Lucy Porter Sutton that it responded to artificially produced fever.

We have recently had occasion to use this form of therapy in a patient seen at the Fresno General Hospital.

REPORT OF CASE

The patient was an Armenian girl of nine years of age. One month previous to admission she had gone to bed with an attack of acute rheumatic polyarthritis. Within two weeks she began to be irritable and fidgety. This had gradually become more noticeable until on admission she presented well developed choreiform movements.

The early history was unimportant, and the child had been in good health up to the onset of the acute rheumatic fever.

The patient was a well developed girl of nine years, weighing sixty pounds. The temperature was normal, and the pulse rate was 120. There was a soft systolic murmur at the apex transmitted toward the left axilla. The tonsils were slightly enlarged.

She was given warm baths, moderate doses of luminal and bromids, but without any improvement in her condition. In spite of her cardiac lesion it was decided to try fever therapy.

On July 6 one minim (0.06 cubic centimeter) of Cutter's typhoid vaccine (500 million killed bacteria to each cubic centimeter) was given intravenously. The temperature rose from 98 degrees Fahrenheit (36.6 centigrade) to 102 Fahrenheit (38.8 centigrade) in five hours.

On July 7 two minims (0.12 cubic centimeter) of vaccine were injected. The temperature rose in five hours from 99.4 degrees Fahrenheit (37.5 centigrade) to 107 Fahrenheit (41.6 centigrade). An ice cap was applied to the head and a cool sponge bath was given. Next morning the temperature was normal.

On July 8 one and one-half minims (0.09 cubic centimeter) were given, which was followed by a rise of temperature from 98.6 degrees Fahrenheit (37.0 centigrade) to 104 Fahrenheit (40.0 centigrade) in five hours. There was considerable improvement in the child's appearance by this time. The purposeless movements had decreased, but were not entirely abolished.

On July 17 two and one-half minims (0.15 cubic centimeter) vaccine were given. This was followed by a rise of temperature to 101 degrees Fahrenheit (38.3 centigrade).

On July 24 the last injection of three minims (0.18 cubic centimeter) were given, which was followed by a rise of temperature to only 99 degrees Fahrenheit (37.2 centigrade).

The choreiform movements had ceased and there was no more irritability.

Improvement in the general physical and mental condition of the patient has continued to date, with no return of symptoms. Since leaving the hospital she has gained one and one-half pounds in three weeks. The pulse has dropped to ninety.

COMMENT

Therapeutic fever was popularized by Wagner Jauregg, who, in 1918, introduced the malaria treatment of dementia paralytica.

Since then much attention has been given to the treatment by this means, of diseases of the central nervous system including not only dementia paralytica, but also Parkinsonian encephalitis, dementia praecox, melancholia, neuralgia, epilepsy, etc.

The plasmodium of malaria, which was used at first as the fever-producing agent, caused anemia, and many other agents were, therefore, tried by various workers. *Treponema hispanicum*, the etiological factor in relapsing fever, was used in 1920; the organism of Sodoku, or rat bite fever, in 1926; and antityphoid vaccine in 1927.

Because of the striking similarity between the choreiform movements which follow certain cases of encephalitis and the movements of chorea, and because of the fact that chorea had sometimes been cured by intercurrent illness with fever, Mas de Ayala² in 1930 applied to chorea the same treatment which he had been using in encephalitis. He produced fever by means of the *Treponema hispanicum* and found that the symptoms of chorea were abolished.

Typhoid paratyphoid vaccine has been successfully used in the treatment of chorea since March, 1929, by Lucy Porter Sutton.³ She noticed that luminal, given as a sedative in this disease, caused a fever and rash when the drug was pushed. Following the fever the symptoms disappeared. The improvement seemed to be due to the fever rather than to the specific effect of the drug. Accordingly typhoid-paratyphoid vaccine was used in place of luminal to produce the fever.

Pilcher and Gerstenberger⁴ observed results comparable to those obtained with luminal when nirvanol (phenyl-ethyl-hydantoin), an hypnotic and sedative, was given in sufficiently large doses to produce fever and exanthem.

It is interesting to note in connection with the use of typhoid vaccine in the treatment of chorea that twenty-five years ago a Rumanian physician, Mor Turnovszky,⁵ reported a case of chorea which was cured by an intercurrent attack of typhoid. No advantage was taken of this remarkable result, and it was not until Professor Wagner Jauregg introduced malarial therapy that any attention was paid to this early case.

Therapeutic fever acts on the nervous system by means of the meningeal reaction which it causes. In a series of cases examined by Mas de Ayala,⁶ patients who before the production of fever had a normal spinal fluid developed an increase in the cell count and an increase in the globulin content of the cerebrospinal fluid. The reaction produced, he considers to be a latent benign and transient meningitis.

Résumé.—Five injections of typhoid vaccine, varying from one to three minims (0.06 to 0.18 cubic centimeter), were given intravenously to a child suffering from chorea. There was a rise of

temperature to a maximum on one occasion of 107 degrees Fahrenheit (41.6 centigrade). The symptoms of chorea disappeared completely.

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Treatment by Fever of Chorea.—Twenty-four children suffering from St. Vitus' dance were treated successfully by fevers artificially produced by manufactured serum by Dr. Lucy Porter Sutton, New York, working in Bellevue Hospital, according to a report recently made to the American Medical Association. The average time the children remained in the hospital was nine days, while sixty-three cases under the usual treatment of rest and quiet stayed in other hospitals an average of forty-seven days. Doctor Sutton used typhoid-paratyphoid serum because it gave fevers for successive days and reported the prompt stopping of the symptoms of St. Vitus' dance.

The discovery was by accident and occurred while Doctor Sutton was treating an extreme case of St. Vitus' dance in a boy. He was given a drug as a sedative with no beneficial effect, but through a misunderstanding the drug was not stopped until the thirteenth day when a rash and a fever developed. This was traced to poisoning from the drug, but it was noted that the St. Vitus' dance suddenly improved after the irregular fever that rose as high as 106.4 degrees. A consideration of various factors convinced Doctor Sutton that it was the fever that cured. She then tried small doses of typhoid serum because it was a safe and simple way of giving fever and found it effective. Later, typhoid-paratyphoid serum was chosen because it was an even simpler, safer, and cheaper way of giving fever.

The twenty-four experimental cases were treated by fever more rapidly and more satisfactorily than any other cases of St. Vitus' dance which had heretofore been treated in Bellevue Hospital, but Doctor Sutton still considers the treatment in an experimental stage.—*Journal of the Missouri Medical Association*, October, 1931.

Evidences in Favor of Inheritance in Cancer.—The peculiar occurrence of tumors in homologous twins assists in confirming the suspicion that tumors in them are derived from the germ plasma, probably from their ancestors, and if the simultaneous symmetrical tumors in homologous twins are so brought about, is there not a strong possibility that other human tumors may be similarly brought about and inherited from the ancestors, as in mice? Is that not thoroughly consistent with the fact that there are cancer families? When we come to know as much about cancer and other tumors in human beings as we know about cancers and other tumors in rats and mice, may we not expect to find the whole thing taking place according to exactly the same fixed laws?—Joseph McFarland, M. D., *Delaware State Medical Journal*, March, 1932.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussion invited.

ACUTE URETHRITIS: ITS PROPHYLACTIC AND ABORTIVE TREATMENT

EDWARD W. BEACH, M. D. (Medico-Dental Building, Sacramento).—So soon as this subject is broached, the agile mind glimpses infractions of the Decalogue and that Minotaur of youth—gonorrhea. To be sure, gonorrhea is the most frequent offender in acute urethritis and while, like Tennyson's brook, it seems to come from shady spots or "haunts of coot and hern" to "make a sudden sally" and often to "go on forever," it is by no means the sole culprit.

Any consideration of the etiology of acute urethritis must of necessity deal with the rarer but nevertheless important nongonorrheal group. The latter, like the strokes of Colonel Seller's clock when she "buckled down to her work," are both numerous and impressive.

The following classification outline, while not comprehensive, helps to simplify the subject although with some overlapping of divisions.

NONGONORRHEAL URETHRITIS

- | External Factors | Internal Factors |
|-----------------------------------------|----------------------------------|
| 1. Venereal Origin. | 1. Secondary Urethral Infection. |
| (a) Demonstrable Organisms. | By direct extension. |
| Bockhart's organism in pseudogonorrhea. | Blood or lymphatics. |
| Staphylococcus (various). | 2. Eruptive Fevers. |
| Streptococcus. | Variola. |
| Micrococcus catarrhalis. | Varicella. |
| Pneumococcus. | La grippe. |
| Pneumobacillus of Friedländer. | Typhoid fever. |
| Bacillus coli communis. | Acute rheumatic fever. |
| Spirocheta pallida. | 3. Ingestive Group. |
| Fungi. | Alkali. |
| Bacillus Ducrey (rarely). | Alcohol. |
| (b) No Demonstrable Organisms. | Asparagus. |
| "Aseptic" urethritis. | Turpentine. |
| Chemical irritation? | Cantharides. |
| 2. Traumatic Origin. | 4. Diathetic Group. |
| Mechanical. | Gout. |
| Chemical. | Rheumatoid. |
| Physical. | Diabetes. |
| Physiological (masturbation). | |

Nonspecific urethritis usually results from direct contact, incident to the sexual embrace and is most often promulgated about the menstrual epoch. Every sort of organism has been found in the bacterial type, with honorable mention of the staphylococcus, whose attack upon the obdurate cylindrical epithelium is doubtless enhanced by lowered local resistance or constitutional depletion from any cause. Vaginal smears from the copartner are usually disappointing. Frequently this type of urethritis is as adamant to all treatment. Fortunately, the "aseptic" urethritis signaled by a discharge minus discernible organisms but with large numbers of leukocytes and desquamated epithelial cells is usually more amenable

to therapy. Dreyer has recently stressed reflex urethritis due to pediculus pubis infestation. The possibility of an intra-urethral chancre must be remembered.

A traumatic urethritis from mechanical bruising may reward the zealous and overanxious owner in his tireless search for the illusive drop. Ardent devotion to the "penis developer" by the moron, the pervert and the benighted may sponsor a urethritis. The valiant but misdirected use of powerful chemical injections either as a prophylactic or abortifacient may initiate an intractable inflammation. Foreign bodies introduced in satyriasis to heighten pleasure, excessive masturbatory, abnormal coitus, immoderate onanism or sexual overindulgence by the debauchée, may all culminate in urethritis. Accidental injury to the urethra, an indwelling catheter, the passage of an overly warm sound, the maladroit use of diathermy in the urethra or adjacent rectum may all cause urethritis. A retained calculus, a neoplasm, and most infrequently actinomycosis can be responsible for urethritis. A bizarre factor is the infestation of the urethral canal by minute catfish, as among the natives of the Amazon, and described by Gudgey.

Among the internal factors a descending infection from other points is most common. This often is secondary to a diseased process in the kidney, bladder, prostate, or seminal vesicles. Remote foci, such as teeth, tonsils, accessory sinuses, gall-bladder, appendix, colon or pelvic morbidity, may contribute to the latter. Both hematogenous and lymphogenous routes are postulated.

Urethritis is sometimes seen accompanying the acute exanthemata and in severe constitutional infections. The exact cause is equivocal, whether because of the toxins, the myriads of assailing organisms in the urine, or by reason of the profound asthenia of the patient.

Any decided change in the chemistry of the urine may sponsor urethritis. Prolonged ingestion of alkaline water, imtemperate use of alcohol, asparagus, turpentine, cantharides, may all spell trouble.

Attacks of urethritis attending gout, the rheumatoid diathesis and diabetes are sometimes seen.

Gonorrhea captions all other etiologic factors in acute urethritis. Paurge's choice of *Rondibilis*' fifth recommendation to assuage lust is still popular in many quarters, and hence the gonococcus merits some consideration. Neisser's organism, a Gram-negative intracellular diplococcus is now held responsible for gonorrhea by most bacteriologists. However, some men, after C. C. Warden and I. S. Koll, still champion an altered coffee-bean-shaped staphylococcus in symbiosis with the

gonococcus. Many workers (Pelouze to the contrary) find the gonococcus difficult to culture except under ideal conditions, thereby offering refutation to the staphylococcus theory. Nevertheless, secondary invaders readily thrive in the soil prepared by the gonococcus. A specific urethral smear, best prepared with a rounded toothpick, devoid of cotton, presents many leukocytes without bacteria, a few bacteria between cells and an occasional phagocyte packed with diplococci in an evenly dotted arrangement.

Obstacles incident to diagnosis are often more apparent than real. A careful history and a painstaking examination is important. A lengthy incubation period suggests nonspecific possibilities or an intraurethral chancre. Identification of the causative organism is essential either by urethral smear, culture or recovery from the urine. At times a complete urologic check-up is imperative, especially with descending infections. Each patient is an individual problem, with treatment always dependent upon accurate diagnosis.

* * *

FRANKLIN FARMAN, M. D. (727 West Seventh Street, Los Angeles).—A consideration of the pathology of acute urethritis in the male involves a discussion, first, of the changes which occur in the urethra throughout its entire length; second, of the complications such infections frequently bring about in contiguous genital structures; and lastly, of the general body or remote reactions of gonorrheal infection.

At the onset of acute urethritis following bacterial (gonococcus) invasion, the anterior urethra undergoes a gradual inflammatory reaction. For the first thirty-six hours the germs remain on the surface, and this period, which is free from symptoms, is termed the incubation period. According to Luys, it is a matter of common knowledge that the gonococcus penetrates into a normal urethra which has never been infected, and has a healthy cylindrical epithelium, much more easily and readily than into one which has been infected some time or other. This fact explains why abortive treatment by means of immediate irrigation and prophylactic injections are much more often a failure in fresh cases than in subsequent attacks. One of the consequences of gonorrheal infection of the urethra is destruction of the cylindrical epithelium and its replacement by pavement (squamous) epithelium. After a couple of attacks, the urethra has undergone such modifications as to become a bad soil for the gonococcus. The organism finds it difficult to penetrate into the epithelium, and thus the chances of a well-conducted abortive treatment proving successful are infinitely greater (Thomson).

Following the incubation period the gonococci commence to multiply rapidly, penetrate into the deeper tissues and into the secreting follicles of Littre and crypts of Morgagni. A severe inflammatory reaction is brought about through the liberation of bacterial (gonococcal) toxin; serum is poured out, large numbers of polynuclear neutrophil leukocytes (pus cells) migrate into the

inflamed area, epithelial cells are loosened and desquamated, and all of these products accumulate in the lumen of the urethra to form the characteristic thick, yellow pus of a gonorrheal discharge. During this period the superficial layers of the submucosal tissues become markedly infiltrated with polynuclear and mononuclear leukocytes and with plasma cells.

If microscopic sections are prepared from a urethra at this stage of the disease it will be noted that wherever gonococci are found, there also large numbers of polynuclear leukocytes are present. Generally, however, in the deeper tissues the gonococci are more commonly extracellular than intracellular, which is the opposite to what one finds on the surface and in the lumen of the urethra. Moreover, the gonococci do not enter into the epithelial cells, but penetrate and multiply between them.

The gonococcus does, however, gain access to the excretory ducts of Littre's follicles and the other urethral glands, and thereby the same inflammatory processes are produced in these diverticula as on the surface of the urethra itself. Unfortunately, antiseptic irrigations and injections seldom or never penetrate into the infected follicles, within which the gonococcus may remain for an extraordinarily long period of time. When these glands or follicles become infected with the gonococcus, other organisms follow in their trail. These secondary organisms consist of staphylococci, pneumococci, diphtheroids, streptococci, *Bacillus coli* and the like, and it is these organisms which may keep up a mild, chronic inflammation, resulting in a morning drop and shreds in the urine.

When the inflammation has passed its maximum intensity, an attempt is made by the tissues to repair the damage which has been done. Marked proliferation of embryonic cells occurs, and in place of the original single layer of surface cylindrical epithelium, there is developed a coating which consists of several tiers of cells and in which the cylindrical variety reverts to a more cubical or even squamous type. Even keratinization may take place in the surface epithelium in very chronic gonorrhea.

If the attack of gonorrhea has been mild or of short duration, the whole of the injured surface may be rapidly repaired, but in many cases the inflammation spreads still further to the subepithelial connective tissue and even to the trabeculae of the corpora cavernosa. These, in consequence, are swollen and infiltrated with embryonic cells, serous exudate, and leukocytes. Phlebitis may supervene as a result, as well as endo and periarteritis. The lymphatics may also be involved, accompanied by painful enlargement of the lymphatic glands, which may even suppurate (Thomson).

Nature's method of obliterating the last traces of urethritis is by the formation of small, fibrous, contracting nodules within the surface and glandular epithelium. Unfortunately, however, this healing process may lead to stricture formation by gradual shrinkage of the lumen of the urethra.

In by far the majority of cases, variously estimated from 70 to 95 per cent, the infection (bacterial invasion spreads from the anterior to the posterior urethra by direct continuity or surface transmission (Pelouze). When a posterior urethritis is set up, it is always accompanied by some congestion or true inflammation of the prostate gland. Other complications that should be mentioned are cowperitis, vesiculitis, and epididymitis. These genital structures when attacked by the gonococcus undergo the same process of congestion, infiltration, proliferation, and fibrosis.

More remotely removed from the seat of primary infection, but of paramount consequence to a full appreciation of the ravages of gonorrhea, are the secondary complications of pyelonephritis, arthritis, and ophthalmia.

* * *

CHARLES P. MATHÉ, M. D. (450 Sutter Street, San Francisco).—The most efficient measure in the prophylactic treatment of acute urethritis is its prevention. This can be accomplished by proper education of the public as to the ravages of Neisserian infection, calling attention to the many deformities and mutilating complications resulting from this disease. The most effective prophylactic treatment is the immediate employment of an antiseptic injection or lavage of the urethra immediately after exposure or early during the incubation period of the disease. This consists of an irrigation of the anterior urethra employing low hydrostatic pressure with potassium permanganate (1 to 4000) or neutral acriflavin (1 to 4000). The irrigation should be performed with gentleness and is followed by an instillation or injection of a few cubic centimeters of neosilvol (6 to 10 per cent), argyrol (5 to 15 per cent), protargol (one-fourth to one-half per cent), or reargon (five per cent), etc. The patient is instructed to compress the bulbous urethra with the hand in order to confine the antiseptic solution to the anterior urethra. The sooner after exposure that prophylactic treatment is carried out the greater likelihood there is of preventing infection. This phenomenon has been observed by many urologists, and I have yet to see a case in which I personally instituted prophylactic treatment early—within twenty-four hours after exposure—who later developed urethritis. I recall a conversation with Doctor Dalger, ship surgeon of the French naval training ship, *L'Edgar Quinet*, which came to San Francisco in 1929 and in which the number of Neisserian infections among thirteen hundred men aboard over the period of one year's cruise had been reduced to twenty-eight by proper education of the crew and the efficient use of prophylactic measures. Lieutenant Commander Paul Stalnecker of the United States Navy also commended on the low incidence of infection among sailors in which prophylactic treatment was properly carried out. Acute urethritis is usually ushered in with discharge and itching of the meatus, and dysuria, and as soon as any of these signs or symptoms occur abortive treatment should be instituted.

Efforts to abort urethritis have not been sufficiently employed because of the erroneous general opinion that they do little good, if any, in staving off infection. Although not always successful, a number of failures are unquestionably due to improper or poor technique. A number of men, notably Israel in Germany, Tissot in France, and Wright in this country, report several cases in which they have unquestionably aborted acute urethritis. Abortive treatment consists of the injection of an antiseptic solution in the anterior urethra during the first twelve to seventy-two hours of the disease when the urethritis is usually confined to the pavement epithelium of the fossa navicularis. A silver salt, reargon (5 per cent), neosilvol (6 to 10 per cent), argyrol (5 to 15 per cent), or protargol (one-fourth to one-half of 1 per cent), etc., is used rather than other germicidal substances because they stimulate chemotaxis and phagocytosis, as well as to exert a bactericidal effect on the organisms themselves. The principle in mind is that one should aim to kill the organisms present with the least destruction to urethral tissue consisting of the superficial epithelium of the lumen. Many cases are not aborted because of improper filling of the fossa navicularis resulting from a too casual technique of the injection as usually performed by the patient or the doctor. In making the ordinary injection, in order to bring the solution into contact with the walls of the fossa navicularis, the glans is grasped between the thumb and finger in order to close the meatus for the purpose of retaining the injected fluid, with the result that the infected walls of the fossa are pressed closely together and thereby protected from contact with the solution contained in the urethra. In order to avoid this the glans should be grasped just back of the fossa, between the thumb and the finger, and by making gentle pressure on the urethra and at the same time moderate traction on the penis, the urethra will gape wide open and, when turned up, will form a cup into which a few drops of the antiseptic solution employed can be dropped. If one so desires, the anterior urethra can be filled with an antiseptic solution first and then the penis grasped in the manner described above, allowing the solution to flow back, fill the fossa navicularis, and come into contact with the entire mucosal lining.

In addition to the injection described above, the anterior urethra can be cleansed by a gentle irrigation with potassium permanganate (1 to 4000) or neutral acriflavene (1 to 4000). Stronger solutions of neutral acriflavene are likely to be followed by stricture formation. Through-and-through bladder irrigations, introduced by Janet many years ago and popularized later by Valentine, should not be used in the abortive treatment of urethritis. These should be reserved for selected cases of posterior urethritis, as much harm is often done to the anterior urethra by the trauma resulting from forcing the solution by the sphincters. This trauma results in lowering the resistance of the urethral tissues and favoring extension of disease. Absolute quiet and rest in bed is of great benefit

and is generally underestimated. It is of great aid in aborting the disease and shortening the length of infection. Forcing fluids is also of great value, as the infecting organisms are mechanically washed away from the urethra during the act of micturition, and alkalization of the urine is also rational therapy as gonococci do not thrive in an alkaline medium. The urine is easily alkalized by giving daily six grams of sodium bicarbonate or potassium citrate (the latter usually in combination with tincture of hyocyanus). With the popularization of the antiseptic injection, internal medicaments, which were formerly so popular, have lost favor. Sandalwood oil and the other balsams, sometimes combined with methylene blue, were extensively used years ago but have become less popular in recent years and have, to some extent, given way to the employment of local antiseptic agents. The newer oral antiseptic substances, such as enteric neutral acriflavene 0.03 gram, pyridium 0.1 gram (substitute product, pyridin), and serenium 0.1 gram, have a high bacteriicidal effect, are of some value, and should be used. These are employed in conjunction with the local injection, as the presence of an antiseptic substance in the urine aids to prevent extension of infection. The intravenous administration of mercurochrome 220, introduced by Young and extensively used by Redewell, Potter, and Garrison, although a useful adjunct in the treatment of urethritis does little in aiding to abort the disease. The same might be said of the intravenous administration of gonocrin, used by Doctor Trifu in the military hospitals of Roumania.

Diathermy was popularized by Ehrick in 1918 and is a valuable adjunct, as heating of the tissues stimulates chemotaxis and phagocytosis. The ultra-violet ray conveyed by water, reported by Hart and Hartman before the recent meeting of the Western Branch of the American Urological Association held in San Francisco, acts very much like diathermy. Both are valuable, but should not entirely replace chemical antiseptics.

Vaccinotherapy is not extensively used because it has been contended that it aids very little in aborting acute urethritis or reducing the amount of infection. A number of men, however, claim that the poor results obtained, have in some instances been due to its improper administration. Mock, Joubert, and Goy recommend the subcutaneous injection of 0.25 cubic centimeter of gonococcus vaccine immediately after exposure or at the time or the appearance of the discharge and thence after every three days, gradually increasing until the dose of 1 cubic centimeter is reached. They point out that success depends upon the administration of the vaccine during the positive phase, which is during the first five days of infection. From the fifth to the tenth day after the appearance of the disease, there is a negative phase at which time immunity does not take place. The bouillon filtrate of Besredka and of Corbus and Ferry is injected intradermally for the purpose of stimulating the formation of an anti-

toxin which neutralizes the toxin of the gonococcus. In accordance with the new theory of local immunization, Besredka has recommended the local use of the filtrate in the urethra in the treatment of acute urethritis. For the past five months I have been employing the bouillon filtrate, furnished by the experimental laboratory of Parke Davis & Company, intradermally, commencing with 0.25 cubic centimeter and increasing until the dose of 1.0 cubic centimeter is reached, and in some instances the disease has been aborted. In these cases, however, the other measures outlined above were also used, so that one cannot attribute abortion of the disease to the use of the bouillon filtrate alone. It is a valuable addition—among other measures—however, and although it alone might not abort the disease, it tends to lessen the intensity of infection and to minimize the amount of complications.

The proper employment of prophylactic measures outlined above will prevent infection of the urethra in the greater majority of cases. The employment of prophylactic treatment during the incubation period of urethritis will be successful in direct proportion to the shortness of time elapsing after exposure. After urethritis has declared itself, abortion of the disease depends in a great measure upon the relative virulence of the strain of organisms present as measured with the local and general resistance of the patient. However, the intelligent employment of an early antiseptic injection performed in such a way that the solution will come in contact with the walls of the fossa navicularis, the use of a gentle irrigation, rest in bed, the forcing of fluids, and alkalization of the urine, the oral administration of urinary antiseptics, in addition to the intelligent use of vaccine therapy and diathermy, is worthy of a trial and will aid in aborting acute urethritis in a certain percentage of cases.

Hospitalization for Veterans.—The government now with 40,000 beds available for veterans, proposes to build additional hospitals providing for 130,000 more beds at the cost of \$300,000,000, despite the fact that at the present time there are approximately 319,000 empty beds in the 8,000 civilian hospitals. For the government to persist in planning new beds while there is already an oversupply on hand is a tragedy and a crime against the already overburdened taxpayer, who pays and pays. Let it be repeated the proposed veterans' hospital building plan is both an unnecessary burden on the taxpayer and a crime against the medical profession. With government hospital plants totaling 150,000 beds, without doubt there will be built up a more or less political personnel whose sole interest will be to hold onto their jobs by keeping all these beds filled. When the veterans are all dead, whom will these bureaucrats bring in to fill these 150,000 beds? Will the government donate these hospitals for civilian use? Not if the job holders can help it! Rather, by their plan one after another of various groups of the civilian population will be granted hospitalization in government hospitals at government expense, will be treated by government doctors working on salary, and will be withdrawn from the possible clientele of the already harassed private physician; the whole scheme will build up a bureaucracy that knows no master. And the expense will be paid by more taxes—if the taxpayers hold out.—*Illinois Medical Journal*, March, 1932.

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Leaflet Regarding Rules of Publication.—California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

EDITORIALS*

PASADENA ANNUAL SESSION

May California and Western Medicine in Press During the Annual Session.—The May number of CALIFORNIA AND WESTERN MEDICINE will be printed and mailed a few days after the close of this year's annual session. At the time this is written, we can only speculate concerning the meetings. That they will be fruitful in presentation of scientific achievement may be taken for granted. That the meetings of this session, by those who attend, may be productive of better understanding on many important economic and other problems which are vitally connected with medical practice, is earnestly desired. That a broad outlook on these problems may be taken back to the component societies by their representatives in attendance is likewise devoutly wished.

* * *

Reports of California Medical Association Officers and Committeemen Should Be Read.—In the June number of CALIFORNIA AND WESTERN MEDICINE will be printed the reports of officers and committees and of the House of Delegates and Council. It is urged that members take the time to glance through those reports. It is to be remembered that while officers may be elected and

* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Medicine Today column, which follows.

committees be appointed for this, that or the other work, that the efforts of such officers and committeemen will be of little avail, unless supported by a united and alert profession.

* * *

No Members of the Profession Can Claim Exemption from Their Obligations.—No members of the profession should be so self-centered or so self-satisfied as to permit themselves to think that these economic and allied problems which are now so much to the front are simply expressions of nervousness or idle prating. If there be such members, then in good time they will awaken concerning the readjustments taking place in medical practice, unless such members be so blessed with worldly goods that it matters not to them what happens to their profession or to their colleagues.

* * *

The Place of Organized Medicine in Our Present-Day Needs.—It has been stated that when we gather together to hold medical meetings that we are too prone to follow precedent. In other words, that we at times follow old forms of procedure, which in the light of modern demands, need revision or modification. For instance, in other American groups there is not disrespect or pseudo-shame when subjects of economic importance are broached. Why should it be so in the profession of medicine? Are we not, all of us, obliged to earn our daily bread? If we receive not sufficient compensation in money for services honestly and efficiently rendered, can we maintain our professional existences and our families in the manner which we have a right to expect, when the money and effort in acquiring that knowledge and ability to practice the profession of medicine are taken into consideration? The fact that because as a class we are so tolerant of lack of appreciation by others of what we do that is praiseworthy, only makes our profession and ourselves as individuals, targets for cold-blooded exploitation by designing persons, both without and within our guild.

To our profession, to our families, to ourselves, and to the public, we do an injustice when we sit indifferently by, while the structure of ethical and scientific practice that has been erected by the generous and altruistic endeavors of a host of our fellows in the days gone by, is subjected to onslaught by designing organizations and individuals. It is not to our credit when we permit ourselves to lapse into mental lethargy in these matters.

Because state and county medical society and hospital staff and group meetings keep us alert in matters affecting our professional and economic welfare, these organizations are all of value to us. All of us need association with these coöperative expressions of group endeavor. Not one of us need think he has reached such heights in the profession, to have the right to remain aloof. Rather, the higher our positions and the greater our influence, the more are the responsibilities to which

we should subscribe on behalf of our profession and what it has always represented.

It is our sincere wish that the sixty-first annual session of the California Medical Association at Pasadena will aid in bringing about a keener recognition of our obligations to the public, to our profession and to ourselves.

OPTOMETRISTS—A SURVEY BY THE COMMITTEE ON COSTS OF MEDICAL CARE

A New Volume Dealing With Optometrists.—Volume 15 of the publications of the Committee on Costs of Medical Care recently came off the press. Its caption is "Midwives, Chiropractors and Optometrists." Here only the twenty pages dealing with optometrists will be commented upon.

This report is a survey that should be of special interest to eye physicians. In a foreword it is stated that before a report is printed by the Committee on Costs of Medical Care, an opportunity is given to members of the executive and general committees to file dissenting opinions. None such were filed in this report. In a field of work so vast as that which the members of the Committee on the Costs of Medical Care have taken on their shoulders, that, however, should not cause surprise.

It is important, however, that these surveys and reports, as they come off the press, should not get into the literature unnoticed, lest statements contained therein that may not be fully warranted, should later be referred to by others as not only having the standing of proven facts but also the implied sanction or endorsement of so great a body as that which in the minds of some, the Committee on the Costs of Medical Care has already become.

* * *

A Criticism of the Committee's Survey.—The particular report here referred to was made by Louis S. Reed, Ph. D., under the direction of Harry H. Moore, Director of Study. It presents an interesting mass of more or less valuable information. If we were to criticize it generally we would be tempted to say that its authors still need a better knowledge of the background and forces of non-sectarian and scientific medicine than they seem to possess, and also need either a wee bit less of diplomacy or somewhat more of backbone than is in evidence when conclusions are put forth on what might be styled as being on a sort of straddling basis.

Because these reports of the Committee on Costs of Medical Care will undoubtedly have a real influence on the trends of medical practice in the years to come (just as did the Rockefeller Foundation-Flexner reports on medical education about two decades ago), it seems worth the while to make them the subject of comment.

* * *

Attempt to Draw an Analogy to Dentistry.—From the summary in this booklet are quoted some excerpts which may be taken to show the

substance of its implied recommendations. These follow:

"... Midwives, chiropractors and optometrists exist as practitioners of special branches of medicine for similar reasons. They supply services which doctors of medicine, either because of lack of interest or because of geographical or pecuniary factors, have failed to provide. They will continue to exist so long as physicians or other practitioners under their direction do not provide equivalent services, equally satisfactory in quality and at the same or a lower price..."

"... The chiropractors and optometrists are on a different footing. On the whole they are better trained to practice in their areas of medical care than are the midwives in theirs. Both these groups hope to obtain professional status and eventually to win for themselves a place in the medical world similar to that now occupied by the dentists. Both feel that they are now having the same difficulties and meeting the same opposition from the medical profession as did the dentists when the latter first sought to establish dentistry on its present basis..."

"... These considerations force the conclusion that the ideal solution of the problems now presented by the existence of chiropractors and optometrists lies not only in close but in organized cooperation between these practitioners and doctors of medicine..."

"... However, one cannot ignore the fact that medicine is today practiced by separate, unorganized individuals. Under individualistic practice, owing to the difficulty of obtaining cooperation among separated individuals, the fullest returns of specialization cannot be obtained—nor can the widest use be made of narrowly trained auxiliaries. So long, therefore, as medical practice continues on its present basis, midwives, chiropractors and optometrists will probably continue to practice as heretofore. Group or institutional medical practice might open the way for organized cooperation between these practitioners and doctors of medicine..."

* * *

Statistical Figures.—In the figures given for the United States, it is stated that "in 1929, 1,343 physicians were specialists in ophthalmology, and 4,980 physicians specialized in "eye, ear, nose and throat." The two groups total 6,325 members.

As to optometrists, it is stated, "There are approximately 20,000 optometrists licensed in this country." Of the licensed optometrists about 20 per cent do very little work, another 25 per cent "are proprietors or employees in jewelry-optical establishments and divide their time between optical work and selling jewelry and other merchandise."

"... The semi-professional, semi-commercial character of present-day optometry is reflected in the various types of optometry practitioners. A portion of the optometrists, like physicians and dentists in private practice, maintain offices in their own homes or in office buildings. These "upstairs" optometrists do not comprise more than twenty-five to thirty per cent of the whole. The remainder of the optometrists practice in stores..."

"... In optical circles, it seems to be generally accepted that glasses worth about \$100,000,000 are sold annually in this country. It is also estimated that at least one-half of this business is done by optometrists... Accepting these estimates for lack of better, it may be said that at least \$50,000,000 is spent annually in this country for the services of optometrists and for the glasses which they make up and sell on their own and doctors' prescriptions..."

The Licensure of Optometrists and Schools of Optometry.—Minnesota in 1901 was the first state to license optometry. Now every state has an optometry board. There are thirteen optometry schools in the United States, eight with an optometry A rating; two with B; two with C; and one with no rating. One of the A rating schools is that which is a part of the University of Southern California. The five optometry schools attached to universities in 1930 graduated a grand total of ten students, but four non-university or independent optometry schools sent out a total of 146 graduates. Inasmuch as the attachment of optometry schools to the five universities has been much emphasized in optometry quarters to show the "professional status" of optometry, the above figures are doubly illuminating. The influence of the ten as versus the 146 graduates must necessarily remain a matter for future estimate.

Concerning other optometry schools, the following quotations may be permitted:

"... The Northern Illinois College of Optometry has the largest student body of any optometry college. ... The institution boasts that it has graduated more optometrists than all other optometry colleges combined. A two-year course is given, upon the completion of which the student becomes a doctor of optometry. ..."

"... In contrast to these schools is an institution known as the Philadelphia Optical College. The course offered by this school is a "Personal extension course of home study." The prospectus states that "The course ordinarily consumes about three months, but apt students who are well informed can complete the course in as much less time as their attainments will permit. ..."

"... For \$25 the student receives instruction and a 'handsomely engraved' diploma conferring the degree of 'Doctor of Optics,' and for \$50 a diploma conferring the degree of 'Doctor of Optometry.' Other diplomas and certificates of varying sorts may be obtained on payment of extra fees. ..."

"If you will send us the names of some of your prominent business and professional men, including newspapers, we will write them a personal letter, advising them of your graduation and recommending you as an accomplished optometrist and worthy of the confidence of your community. ..."

The last excerpt quoted above fits in well with the letters from a chiropractic school of California, as printed in April CALIFORNIA AND WESTERN MEDICINE, page 294.

After reading the above, the query naturally arises: Will the five university optometry schools pull the independent optometry schools up or will the nine independent or non-university schools pull their university sister-schools down?

* * *

Ambitions of Optometric Licensure Boards.—On the legal status of optometry, the following is printed:

"... The optometry laws of the various states are all of the same general pattern. Practically all define optometry as the practice of examining the eye without the use of drugs and prescribing lenses for the correction of ocular defects. ..."

When one remembers that the fundamental knowledge concerning refractive errors of the eye was practically all placed in the literature by eye

physicians, before licensed optometry in the United States was sanctioned, it is interesting to read the following excerpts:

"... Without exception, all of the optometry laws exempt physicians from their restrictions. In other words, while optometry is not considered the practice of medicine, any physician is considered qualified to practice optometry. This provision is resented by the optometrists and they hope eventually to obtain legislation which will prevent physicians from prescribing glasses unless they are especially qualified. ... Physicians who do refractions would undoubtedly—on grounds of professional pride—resent being asked to demonstrate their qualifications for this work before a board of optometrists, and undoubtedly the medical profession will rigorously oppose legislation of the sort here suggested. ..."

* * *

The Merging of Merchandising Optometry and "Professional" Optometry.—The status of optometry in active practice may be gathered from the following quotation:

"... With most optometrists the dominant interest seems to be the sale of glasses, an activity to which the service of eye examination is incidental. Only a small proportion of optometrists make a separate charge for the examination of the eye and prescription of the proper lenses. The vast majority give a 'free eye examination' and include the cost of this service in the price of the glasses sold. ..."

The aspirations of optometrists to have a full professional status is revealed somewhat in what follows:

"... Among optometrists the opinion is frequently expressed that the future will see optometry taking its place as a legitimate medical specialty, alongside of dentistry. ..."

"... Recognizing that professionalism has its obligations as well as its privileges, optometrists have established clinics in New York City, Minneapolis, and a few other places. Recently an optometric clinic was organized in the Orange County General Hospital, in southern California, at the behest of the local medical society. ..."

* * *

Something New—The "Newer Optometry."—And now concerning the "Newer Optometry" which seemingly hopes to relieve the medical profession from having ophthalmologic specialists. The following sentences shed light on this:

"... The optometry practiced by the vast majority of optometrists consists simply of the testing of eyes to determine the refractive error, and the fitting of glasses. The 'newer' optometry includes the use of certain diagnostic procedures such as urinalysis, blood pressure tests, blood counts, etc., the practice of ocular physical therapy, and a desire to go further. ..."

"... The same group apparently has widened its practice to include the treatment of pathological ocular conditions by means other than the use of drugs. ..."

"... The basis of the newer optometry is the feeling that optometry cannot continue to exist unless it 'goes professional,' and that as a profession it cannot thrive on the narrow basis of straight refraction. The newer optometrists believe that the professional optometrist must eventually assume full responsibility for eye care. ..."

* * *

Pathetic Example of Incapacity to Understand Standards of Scientific Medicine.—But where Louis S. Reed, Ph. D., speaking in print for the

Committee on the Costs of Medical Care, shows a seeming and woeful ignorance or incapacity to understand medical practice is in those portions of his survey in which he emphasizes statements that the simpler (?) types of refractive errors do not need highly trained expert knowledge or judgment! He seemingly forgets or does not know that broad knowledge and training are necessary as a proper foundation for accurate diagnosis; and that he who does not possess such is not in position to know when his services can or cannot be legitimately employed. It is the old specious plea of the cultists, who secure their legislative recognition by asserting that they treat only a limited number of diseases and these by special methods, and therefore do not require such extensive education and high requirements. It is blissful economic arrangement for those who profit by it, but unworthy of promulgation by spokesmen of the Committee on Costs of Medical Care.

When Reed states that "the ophthalmologist who spends his time in doing refraction is doing work for which he is overtrained" he is saying something for which he has little warrant in fact. He might well have read what George M. Gould stated in one of his classical articles. The following from a paper by Gould which was printed in the *Journal of the American Medical Association* a half century ago (*Journal of the American Medical Association*, September, 1891) gives a different viewpoint of refraction:

"... Every case is a rule unto itself, so that one can give few general laws to one learning the art. Refraction is a science and an art in intimate union and requires as much patience, delicacy of perception, fineness of judgment and discrimination as any scientific work in the world. In relation to it there are vast fields of inquiry the wisest have hardly begun to explore. The amount of human misery caused by those ocular defects is appalling, and if the prevention and relief of that misery be the motive of scientific medicine, no branch is more important or demands higher powers of mind than that of ophthalmology—and nine-tenths of modern ophthalmic practice consists of refraction!"

Read further what Louis S. Reed, Ph. D., has to state along this line:

"... Patients who consult eye physicians or optometrists fall into three main classes: (1) those with refractive errors in otherwise normal eyes, (2) those with local pathological eye conditions such as cataract, glaucoma, optic nerve atrophy, toxic amblyopia, etc., (3) those whose local symptoms are the result of general systemic conditions, as in syphilis or nephritis. The majority of patients belong to class 1 and require nothing more than a determination of the refractive error and its correction by glasses. Most ophthalmologists admit that the training which optometrists now receive amply qualifies them to perform these services. Difficulty arises, however, in the case of the minority of patients who fall into classes 2 and 3. Lacking a general medical training, optometrists may fail to detect the true nature of the ailments of these patients. Failure to recognize these pathological or abnormal conditions will involve the prescription of glasses unnecessarily, and much more important, the neglect of conditions requiring attention. . . ."

Another Brilliant (?) Statement Concerning Overtrained Eye Physicians.—After stating the above, Author Reed makes statements as follows:

"... Ideally optometrists, because of the limitations of their present training, ought not to accept patients independently. But should highly trained ophthalmologists whose professional training may well have consumed seven or eight years, spend a large part of their time doing refraction work? This being the case, the ophthalmologist who spends his time in doing refractions is doing work for which he is overtrained. While so engaged, his general medical knowledge lies idle; it constitutes an unused overhead for which the patient must pay. . . ."

* * *

Committee's Recommendation of Solution of the Problem.—After thus delivering himself, Reed sums up his viewpoints, and seemingly tells eye physicians what they must do. Inasmuch as his views are printed in a special report, it may be taken for granted that his advice presumably had the sanction of the Committee on Costs of Medical Care. In his summary Reed states as follows:

"... The solution of this problem, it must be obvious, lies in organized coöperation between ophthalmologists and optometrists, and in a division of labor between them. . . ."

This concluding advice is the more interesting because it comes after a portrayal of statements such as have been previously noted, in which the aspirations of optometrists for full professional status were brought out. Eye physicians can ask themselves how they picture the assimilative process into ophthalmology on full professional status, of all the optometrists to whom the practice of optometry is as much a sale of merchandise as it is a pure profession. Reed and the Committee on Costs of Medical Care certainly are optimists if they think that eye physicians will take on such an assimilative task in the immediate future.

AMERICAN MEDICAL ASSOCIATION— ANNUAL SESSION REPORTS

California and American Medical Association Annual Sessions Are Held in May.—The annual session of the California Medical Association meets at Pasadena on May 2-5. The American Medical Association session is held this year at New Orleans, May 9-13. At these two sessions a large number of reports are submitted by officers, councils, committees, and bureaus. Those reports sum up the activities of organized medicine in our state and national organizations. The wealth of detail in these various reports is so great that many members are at a loss to know what to choose for special perusal and consideration. In next month's issue of *CALIFORNIA AND WESTERN MEDICINE* will be printed the reports of California Medical Association officers and committees, as submitted to the House of Delegates in the *Pre-Convention Bulletin*.

The April 2, 1932, number of the *Journal of the American Medical Association* contained the reports of officers of the American Medical Association. There is much of interest and value con-

tained therein, and for those readers of CALIFORNIA AND WESTERN MEDICINE who have not the inclination to read the reports in detail it may not be amiss to comment on some of the information therein submitted.

* * *

American Medical Association Membership Statistics.—Membership statistics may be dry figures, but their understanding and significance is necessary if the interests of scientific medicine are to be safeguarded through the watchfulness of organized medicine.

In the United States it is estimated that there are about 159,109 licensed M. D. physicians.* The constituent state medical associations whose members compose the membership of the American Medical Association have altogether a total of 99,470 members. This means that there are some 59,639 M. D. physicians in the United States who are not members of their respective county medical societies and who therefore cannot become members of their respective state organizations or of the national association. Secretary West of the American Medical Association, in commenting on these figures, states:

"... In the light of the facts here presented, it does not appear to be probable that the total membership of the American Medical Association can be made to exceed 110,000, even if all the possibilities short of taking 'undesirables' into membership were exhausted. . . ."

In other words, Secretary West thinks that all but about 10,530 of the licensed M. D. physicians of the United States are at the present time members of their respective county medical societies. What proportion of this number should be allocated to California is not known.

California has fifty-eight counties, and of these thirty-nine are recorded as having county medical societies. It must be remembered, however, that California has several county societies made up of two or more counties; and that in several other counties the wide open spaces, covering areas as big as some eastern states, make active county medical societies almost out of the question. Members in such unorganized counties are eligible to membership in the county society located in the most convenient adjacent county.

In California some 10,109 M. D. physicians are registered. Of this number the American Medical Association figures for March 1, 1932, show 5,077 to be members of the California Medical Association. What proportion of the 5,032 M. D. nonmember licentiates are in active practice, and of those who are in active practice, what proportion possess qualifications making them eligible for consideration to county society membership is not known.

Among these 5,032 California M. D. licentiates who are nonmembers must be a considerable number, however, who should be on the California Medical Association membership roster. At this time of the year the newly elected county

society officers could perform a distinct service to organized medicine in California if they created or called together their membership committees for the purpose of planning a survey of all nonmember M. D. licentiates living in their respective counties. There is nothing spectacular in this kind of work, but it is, nevertheless, extremely important and should therefore become a yearly function. It is hoped that every county society will initiate steps to make such a survey. If officers seem forgetful of their special responsibilities in this, then members are urged to call attention thereto, in meeting or otherwise. Organized medicine in California, as elsewhere, should have in active affiliation and membership every eligible licensed M. D. physician.

* * *

American Medical Association Finances and Journal of the American Medical Association Figures.—The economic stress and strain of the last several years reveals itself in the gross income of the American Medical Association which for the year just closed was \$47,000 less than in the preceding year.

Of the 5,077 California Medical Association members who are also on the roll of American Medical Association membership, some 3,564 are also "Fellows of the American Medical Association," and all of such receive the *Journal of the American Medical Association*. The *Journal of the American Medical Association* has some additional 2,120 subscribers from California, a number of whom may belong to the group of 5,032 California M. D. licentiates who are nonmembers of the California Medical Association. An M. D. nonmember of the California Medical Association who is a subscriber to the *Journal of the American Medical Association* would seem to have at least one qualification that would make him worthy of consideration for membership in a county unit of the California Medical Association. The percentage of California physicians who receive the *Journal of the American Medical Association* is 56. For New York, Pennsylvania, Illinois, and Ohio, which exceed California in American Medical Association membership, the respective percentages in the *Journal of the American Medical Association* subscriptions are 64, 62, 65, and 53.

* * *

American Medical Association Package Library Service.—For some years the American Medical Association has maintained a "package library" service, such as is proposed shall be operated by the California State Medical Library, which will begin its active operations in July of this year. Members of the California Medical Association who are interested in library service, and who did not read the opening article by Frances B. van Zandt (who will guide the destinies of the California State Medical Library), and which paper was printed in the April CALIFORNIA AND WESTERN MEDICINE, page 217, are urged to do so. In line with the points brought out in that article,

* The term "licensed M. D. physician" is used because California has seen fit to also license physicians who are adherents to sectarian medicine, such as osteopathy.

the following facts concerning the American Medical Association package library service may be of interest:

"... The package library service furnished 2450 package libraries to physicians throughout the country during 1931. The number for 1930 was 2067. Hence the increase was roughly 20 per cent. This service enables the physician in the most outlying communities who participates in the work of the Association to have readily available the literary documents and communications on any subject in which he may be interested. Since each package library contains from ten to thirty reprints and periodicals, such an increase in the service represents a much greater demand on the personnel. Great care is exercised in the selection of material for these library packages. ... The library regularly replies to inquirers concerning reference questions; approximately 3000 such questions were answered in 1931. ..."

* * *

American Medical Association Council on Pharmacy and Chemistry.—The story of the national Pure Food and Drugs Act is more or less familiar to all physicians. The law was enacted about twenty-five years ago. The official journal of the California Medical Association at that time played a prominent rôle in creating state and national medical opinion in favor of pure drugs and in giving valiant opposition to certain off-color proprietary drug interests. It was at that time that the American Medical Association brought into existence its Council on Pharmacy and Chemistry, whose members have created for themselves so enviable a reputation for work well done. CALIFORNIA AND WESTERN MEDICINE is one of the state journals which regularly prints excerpts from that council's reports. It is not an exaggeration to say that the American Medical Association, through its Council on Pharmacy and Chemistry, has been a powerful stabilizing force in maintaining and furthering the efficiency of the national Pure Food and Drugs Act.

* * *

The Newly Organized American Medical Association Committee on Foods.—More recently an American Medical Association committee on foods began a new but much needed activity. The work of this committee is of great importance to lay citizens and can go far in creating a kindly regard by the laity for altruistic and practical service by the medical profession. Those who have not followed this new American Medical Association activity will find the following excerpts to be of interest:

"... It should be emphasized that the work of this committee has been primarily constructive. It is functioning and operating in a positive manner to bring about truthful and correct advertising in the food field. Its work is educational. Its opinions and decisions are giving proper direction to constructive research in the food industry. It is cooperating in many ways for better nutrition of our people generally. ... Already the office of the Committee on Foods is serving as a clearing house to the food industry, to physicians, to dietitians, and to the public generally. The committee has done much to bring the American Medical Association closer to the everyday life of the people. It is making the public aware of the fact that the medical profession is acting in the interest of the public in all matters affecting nutrition and health. ..."

The American Medical Association Bureau of Medical Standards—Its Aims.—Last year the California Medical Association presented resolutions suggesting the formation of an American Medical Association Bureau of Medical Economics. From the report of that newly constituted bureau some excerpts on the economics of medical care are made because they should have suggestive value for the newly organized California Medical Association Department of Public Relations. These follow:

"... When considering the economics of medical care, one must make a clear distinction between commercial and economic interests. ..."

"... Commercialism is characterized by:

1. Unreasonable fees;
2. Alleviation always predicated on cash in hand or no service;
3. Unethical tendencies or practices.
4. Destruction of scientific motive in both individual and the profession at large;
5. Transformation of the profession into a trade or business;
6. Destruction of confidence in the profession; and
7. An insidious tendency toward state medicine. ..."

"... Economics as applied to medical practice is predicated on sound ethical principles, constructive and reasonable:

1. Alleviation of suffering, prevention of disease, pursuance of research and the dissemination of dependable information are recognized as the primary obligations of the profession;
2. There should be a just compensation for service rendered;
3. Modern ethical business methods are necessary to provide the highest type of service at the most reasonable cost;
4. Ethical business methods insure confidence in the profession;
5. Correct economic measures insure adequate amount and quality of service to indigent as well as pay patients; and
6. The use of ethical business methods and correct economic measures serve to promote in the profession higher scientific attainments because of greater freedom from financial anxiety. ..."

* * *

It would be possible to continue comment on a large number of other problems confronting scientific and organized medicine which are discussed in the reports of the officers of the American Medical Association, but lack of space prevents. It is hoped that what has been here presented may lead such readers who have passed by the report pages of the *Journal of the American Medical Association* with only a fleeting glance to again refer to them. The reports contain information which should be of value to all physicians.

A New Pituitary Syndrome.—In a lecture given at the Yale Medical School, New Haven, Connecticut, February 24, 1932, Dr. Harvey Cushing called attention to a new syndrome connected with the pituitary gland. He pointed out that, although the clinical signs have been recognized for a number of years, they have not been definitely associated until recently with disease of the pituitary gland. ...

It seems fitting, in view of the careful work done in elucidating this rare condition, that the disease should henceforth be known eponymically as "Cushing's syndrome."—*New England Journal of Medicine*, March 24, 1932.

MEDICINE TODAY

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California, Nevada and Utah Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

"Putrefaction Antigen."—The recent demonstration that the newly discovered "putrefaction specificity" is at times present in human feces, suggests hitherto ignored etiologic factors in clinical medicine. By the application of quantitative precipitin and complement-deviation reactions Doctor Sulmann of the Nutritional Institute, Berlin,¹ obtained evidence that as a result of bacterial putrefaction, meat proteins acquire wholly new antigenic properties. This new "putrefaction antigenicity" is allegedly independent of the animal species from which the meat is obtained, and also independent of the purposeful or accidental bacterial species producing the putrefaction. This new heterophile specificity is not immunologically identical with any initial or intermediary product of normal peptic or tryptic digestion. It also is alleged to differ serologically from all known end products of destructive proteolysis. The antigen is colloidal in nature. Injected into rabbits, it stimulates the formation of both a specific antiputrefaction precipitin and a specific antiputrefaction complement-deviating antibody. These antibodies react with all putrid meats thus far tested, and also react with putrid milks. They do not react, however, with milks soured by the ordinary lactic acid bacillus.

Stanford University.

W. H. MANWARING,
Palo Alto.

Local Anesthesia in Traumatic Surgery.—In the urgency which is part of the reception and treatment of injured persons in an emergency hospital having large daily admissions, there is prone to be a disregard for the proper consideration of anesthetics to be used.

The very nature of traumatic surgery is such that the time element is an important factor; but the choice of an anesthetic in a given case is infinitely more important.

The surgeon working in a busy emergency hospital realizes fully that no great amount of time may be consumed in preanesthetic preparation of the patient; but regardless of this, many surgeons take for granted that any one of the general anesthetics is quite in order, and proceed accordingly, giving little or no thought to the possibility of accomplishing the same results under infiltration anesthesia. While it is true that there is a definite and ample threshold of safety with the recognized types of inhalation anesthesia and that the primary danger accompanying the administration of the anesthetic is relatively nil, nevertheless the postanesthetic dangers in the form of prolonged vomiting, dehydration, acidosis, pneu-

monia, and lung abscess that may ensue when an improperly prepared patient is given a general anesthetic are too real to be ignored.

We, as surgeons, are duty bound to conserve life and restore impaired and damaged organs to a maximum degree of anatomic and physiologic efficiency. In doing this we are obligated to do so in a manner that protects all interests of the patient; and when we give a general anesthetic to a patient, who for want of time cannot be properly prepared, and whose surgical condition does not contraindicate infiltration anesthesia, we, in thus acting, are not properly protecting the best interests of our patient.

Repair of wounds of the face and extremities and reductions of uncomplicated fractures of the arms and lower legs may be readily accomplished under infiltration anesthesia.

Frequently one sees a patient with such an extensive laceration of tissue, muscles and tendons that anatomical relationships are all but obliterated or distorted. Under infiltration anesthesia the repair work upon these muscles and tendons may be very accurately accomplished for the reason that muscle activity is directly under the control of the conscious patient, and tendomuscular action can accurately be determined and the severed ends accurately approximated.

The usage and indications for local anesthesia in emergency surgery are so extensive that it is only occasionally that the surgeon will be obliged to resort to a general anesthetic. Patience, practice, gentleness in handling tissue, and a knowledge of nerve distribution is all that is required of a surgeon in working to advantage with infiltration anesthesia.

1930 Wilshire Boulevard.

JAMES REEVE DEAN,
Los Angeles.

Health Department Records Held Confidential.—According to *Health News*, the Appellate Division of the Supreme Court has upheld the New York City Department of Health in its refusal to disclose records pertaining to patients treated at the department tuberculosis clinics. The decision was rendered in a case in which action was brought by the plaintiff as beneficiary to recover the amount alleged to be due on an insurance policy. The City Department of Health refused to permit an inspection or examination of records, books, and papers in connection with the treatment of the insured person for a communicable disease on the ground that "to divulge the secret information contained therein would be in violation of the rule of the department and against public policy." The court held further that, "The protection thus afforded the people of the city of New York is of much greater importance than the interest of a litigant in an action of this character." The court added: "To divulge to the world the secrets of a patient would not only be shocking, but against public policy"—*Pennsylvania Medical Journal*, April, 1932.

¹ Sulmann, F.: *Ztschr. f. Immunitätsforsch. u. exper. Therap.* 70:472, 477; 71:265, 385; 72:1, 1931.

C. M. A. DEPARTMENT OF PUBLIC RELATIONS

An open forum for progress notes on the department's activities, and for brief discussions on medical economics. Correspondence and suggestions invited. Address the Director, Room 2039, Four Fifty Sutter Street, San Francisco.

The Practice of Medicine a Public Service

By WALTER M. DICKIE, M. D.
Director

The following article by Dr. William H. Ross, issued by the Public Relations Committee of the Medical Society of the State of New York, brings forcefully to our attention the necessity of leadership in public affairs on the part of the medical profession. Both public and private agencies having to do with health and welfare are making the same demands for leadership in our own community. The article follows:

"The many evidences of changing times, new social trends, and the broadening of medical practice are having the effect of arousing general medical interest all over the state. In nearly every county of the state there is aroused interest in the modernizing of relationships. It has a definite appeal to the profession in general. It seems to be the answer to the shifting of professional obligations from curative practice only, to the inclusion of preventive measures in a doctor's regular work.

"I have completed a comprehensive inventory of the health activities in each county of the state, by whom initiated, and the relation of the local profession to them; the extent, beyond the theoretical support, that the profession has undertaken to correlate and co-operate with other health influences. All health agencies recognize that the medical man is trained in the technical character of medical service and that he is the only one qualified to render it. All that the non-professional agencies want is the medical man to lead them. They just want leadership, and if the profession of medicine is not willing to give this, then how can we justly continue to find fault with somebody who offers to help us to meet problems of public medical service that have been waiting for us just about as long as they will wait? The evidence is plain that the profession has begun to think on these questions. It has begun to look upon medicine as a public service in addition to an individual occupation.

"Times are changing and, with our will or without our will, we must change with them. There are unsolved health and medical care problems. The public naturally looks to the medical profession to answer them, but if the profession does not offer a plan and guidance, someone else will do so—someone must answer insistent public demand.

"There seems to be no great problem in scientific medicine. It steadily advances. Graduate education is expanding all over the state.

"Many men in practice today can remember the authority that once surrounded the doctor in his community. His knowledge was essential to the individuals in the community. His relationships were personal, not surpassed by any other relationships in community estimation. The doctor was not only a leader in medicine, but often in civic affairs. Every doctor who has been in practice thirty or forty years can see a great change in public opinion as to what is expected of the practice of medicine. The doctor was a leader in the conditions that prevailed a generation ago. I believe that he will become a leader in the new conception of what is expected of the practice of medicine.

"The doctor today must recognize that there are new conditions and that there must be a new relationship to meet them. In no sense whatsoever is he to be

any less of a scientific man, but he must broaden his viewpoint. He will not have to sacrifice any of his intimate relationships to individuals, but he must meet certain new social conditions. It will avail him little to fight these conditions, and if he does, he will be defeated in the end.

"The leaders of medicine see this change coming. Some of them say, 'Fight it and retreat as slowly as we can.' Others say, 'Adjust our relationships, guide health proposals by organizations representing public interest, make use of all organizations and of all wealth, continue to fulfill the social function that the medical profession has always filled toward human happiness and human betterment.' We sacrifice not one bit of our scientific attainments by doing this. We only meet the broader conception of the practice of medicine; and after all, it is nothing more than to render to one's families and friends the greatest service that one human being can render to another—to keep him from sickness and to keep him well. No other group in the world can give this service. Our responsibility for this to the public may be defined in words by saying, 'The obligation of a profession to society is "Of him who knows most, most is expected."'

"The public realizes, beyond question, that the doctor is better fitted than anyone else to render health service, and the public looks to him primarily for this service. Let us not be sensitive and let us not get our thoughts twisted because the public is struggling today to meet certain conditions that the medical profession up to the present time has not fully met. It will little avail us to fail to coöperate with the inevitable demands that are growing out of present day social trends; and after all, why should we not face the issue squarely? We are a profession. We are not primarily directed by commercialism. There is just as much of a place today for the ideals of medicine as there ever was. Medicine today is more of a community problem than it ever was. The fact that there are various health organizations interested in human welfare simply means that there are unsolved problems—and that is the only reason that they have gained a foothold. They are simply making a civic effort to bring to our attention certain problems that have not been medically solved. They are making the same kind of civic effort that prevails today throughout the world in all human relationships. Government understands this principle. Nations understand it. Industry understands it. The medical profession is beginning to understand it to a greater extent than it is generally thought that it does.

"The day is not far distant when the profession will understand just what is going on. The trouble with the medical profession in public relations is essentially this—that it keeps about five years behind the trend of public opinion. As a profession, we have long advocated the betterment of public health and the public has long given us that responsibility. We have gotten so busy, however, with our economic problems that we have neglected to keep in close enough touch with public opinion and close enough to preventive medical trends that would, if adopted by us, efface economic problems. The speck of dust on an eyelash has come to seem like a mountain when we look into the distance. We have become piqued for some reason that one can hardly comprehend. Is it because some other group began to do civic medical work and then to bring to our attention unsolved health and medical care problems, that we have not undertaken to improve?"

Proposed City Ordinance Governing Clinics and Their Operation in City and County of San Francisco

A new departure in the control of clinics has been proposed by a committee of the San Francisco Medical Society, of which Dr. L. R. Chandler is chairman and Dr. J. C. Geiger a member.

The purpose of the following ordinance is to license all clinics and place the conduct of the same under the Commissioner of Health.

For lack of space we are not publishing the rules and regulations accompanying the ordinance. However, we would be glad to furnish anyone who is interested a copy.

City ordinance:

1. *Definition of Dispensary or Clinic.*—For the purpose of this article, a dispensary or clinic or other designation of like interpretation is declared to be a person, place, establishment, corporation, institution, association or agent whose purpose it is either independently or in connection with any other purpose to furnish at any place or places either without charge or for part pay or full pay, medical and/or surgical or dental treatment or advice, or medicine, or apparatus, or drugless healing or manipulation, or mental and habit advice and treatment which will include psychiatric, neurological advice, mental healing and faith cures of all types, to any person or persons non-resident, or ambulatory therein, who are suffering from or afflicted with bodily and/or mental infirmities or ailments of any kind whatsoever.

2. *License Required.*—It shall be unlawful for any person, place, establishment, corporation, institution, association or agent to open, conduct, manage or maintain, any dispensary or clinic as above defined within the incorporated limits of the city and county of San Francisco without first obtaining a license therefor as hereinafter provided.

3. *Application for and Issuance of a License.*—Any person, place, establishment, corporation, institution, association or agent desiring such license shall make application therefor in writing which shall conform to the general provisions of this ordinance relating to applications for licenses and shall truly state in said application the location or proposed location of such dispensary, the purpose for which it is or is to be opened, conducted and maintained, the accommodations or proposed accommodations for patients which it shall contain, the nature and kind of treatment given or proposed to be given therein and the name and addresses of the person or persons making the application and the names of the person or persons who are conducting or will conduct said dispensary or clinic, stating their training and qualifications for conducting such dispensary or clinic.

It shall be the duty of the Commissioner of Health, upon the presentation of such application, to make or cause to be made, strict inquiry into the facts set out in such application and if upon such inquiry he shall find such dispensary or clinic is or is intended to be so constructed and equipped as to afford proper accommodations for the care of persons treated or proposed to be treated therein, and that the person or persons or intended person or persons responsible for the maintenance and conduct of said dispensary or clinic, and the person or persons actually conducting the care given to patients as defined in this ordinance fulfill the requirements defined by this ordinance, and if in the Commissioner of Health's opinion, it is for the public's benefit, and the rules and regulations and minimum standards established by the Commissioner of Health are being carried out, then the Commissioner of Health shall recommend the issuance of a license.

4. *Rules and Regulations.*—It shall be the duty of the Commissioner of Health to establish the rules, regulations and minimum standards for organization and management of dispensary or clinic so licensed and to

approve the methods of collecting funds from the public, and regulating the purposes and objects to which said funds are applied.

5. *Revocation of Licenses.*—The Commissioner of Health or authorized assistant may at any or all times visit and inspect the dispensary or clinic. He may examine all matters in relation to said dispensary and clinic and ascertain how far they are conducted in compliance with the rules and regulations and minimum standards laid down by him. After due notice to a dispensary, and opportunity for it to be heard, the Commissioner of Health may, if public interest demands, and for just and reasonable cause, revoke a license by an order signed by the Commissioner of Health. Such an order shall state the reason for revoking such license, and the time at which such revocation shall take effect and when at the discretion of the Commissioner of Health, the activities of the dispensary or clinic may be resumed.

6. Any person, place, establishment, corporation, institution, association or agent advertising or maintaining a clinic or dispensary as defined in this ordinance without first having obtained a license therefor as provided in this ordinance or after revocation of such license under the authority conferred by this ordinance to the Commissioner of Public Health, shall be guilty of a misdemeanor, and on conviction thereof, shall be punished by a fine of not less than \$..... and not more than \$..... for each offense.

7. Any person or persons who wilfully violate any of the provisions of this ordinance or do not carry out the rules and regulations and minimum standards laid down by the Commissioner of Health shall be guilty of a misdemeanor and on conviction thereof shall be punished by a fine of not less than \$..... and not more than \$.....

8. Any person or persons who obtain medical or surgical care or other treatment of whatever kind from a licensed dispensary or clinic on false representation shall be guilty of a misdemeanor and on conviction thereof shall be punished by a fine of not less than \$..... and not more than \$.....

* * *

San Mateo County Meeting

Your director had the pleasure of speaking before the San Mateo County Medical Society at a dinner meeting on March 30 on the subject of county health organizations.

An election is to be held in the near future to elect a board of freeholders to write and submit to the people a new county charter, and the county medical society is making an intensive study of the problem in order that they may be able to advise the freeholders in writing the provisions in the charter which have to do with the establishment of a public health department.

The San Mateo County Society is to be congratulated on their efforts; and when more of our local societies undertake the guidance of the people and officials in public health matters, then, and not until then, will we have better health laws.

The Application of Thorium to the Cancer Problem.—

According to reports of a discourse by Dr. Joseph Bloodgood in New York recently, thorium has a definite place in the study and treatment of cancer. It appears, according to this report, that the employment of thorium renders the lymph nodes recognizable under x-ray treatment so that it will be possible to determine the extension of a cancer process in some localities where this knowledge may be of use to the operating surgeon. Thorium has been regarded as being radioactive and seems to have a double effect, first, because of its radioactivity and, secondly, in its helpful information with reference to the extension of the disease.—Editorial, *New England Journal of Medicine*, April 14, 1932.

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION*

JUNIUS B. HARRIS.....President
JOSEPH M. KING.....President-Elect
EMMA W. POPE.....Secretary

THE CANCER COMMISSION OF THE CALIFORNIA MEDICAL ASSOCIATION

High and Low Oxygen Tensions in Experimental Cancer Therapy.—The breathing of special gas mixtures in cancer therapy is of recent origin, the stimulus being furnished by Warburg and his coworkers in their study of the metabolism of tumor cells. He states that if the respiration of a growing cell is disturbed, the cell dies as a rule; if it does not die a tumor cell results. Warburg has found that the cancer cell as a result of this disturbance exhibits what is known as aerobic glycolysis; this means that the cell produces lactic acid by fermentation of glucose even in the presence of oxygen. Normal cells cannot do this; they exhibit anaerobic glycolysis, producing lactic acid only in the absence of oxygen. Cancer cells, of course, also exhibit anaerobic glycolysis. Normal cells obtain their energy by respiration, *i. e.*, oxidation alone, while cancer cells obtain theirs partly by oxidation and partly by aerobic glycolysis.

Assuming then that all tumor cells obtain part of their energy from oxidation and part from fermentation, attempts to kill cancer cells by interference with their energy processes must hinder not only oxidation but also fermentation. Warburg, Wind, and Negelein destroyed the bulk of the malignant cells by exposing tumor animals for forty hours to gas containing only five per cent by volume of oxygen. That the tumor cells survived at the margin prohibits the use of this technique, if used alone, for cancer therapy. In any case it would not be possible for man, particularly a cancer patient, to breathe five per cent oxygen for any length of time.

The opposite treatment, namely, breathing oxygen at abnormally high pressure, has also been investigated. The idea here was that the respiration of the tumor cells might be increased at the expense of the glycolysis and thus render these cells more like normal cells in their metabolism. Campbell and Cramer exposed tumor-inoculated mice and rats to 60 per cent oxygen, *i. e.*, about three times the normal, for several weeks. No effect whatever was observed upon the tumor cells. Other observers have employed much higher pressures of oxygen, but for shorter periods. Fischer and his coworkers kept mice with tumors in practically pure oxygen for eighteen to twenty-four hours under 1.6 to 2 atmospheres pressure. He was able to bring about the disappearance of the tumor in a considerable number of animals, but only during the first week after transplantation and by combining the gas therapy with chemical therapy, *e. g.*, injection of copper and selenium compounds. It would certainly not be safe to use two atmospheres of oxygen for twenty-four hours with man.

Fischer-Wasels, whose results have been published recently in an extensive series of papers by himself and his collaborators in a special number of the *Frank-*

furter Zeitschrift für Pathologie, 1930, Bd. 38, have used a gas mixture containing 95 per cent oxygen and 5 per cent carbon dioxide in experiments with animal tumors. He has employed well over two thousand animals in investigating the effects of his gas mixture on transplanted tumors of mice. When the animals breathed the special gas mixture, 55 per cent of the inoculations did not develop into tumors. Fischer-Wasels considers that the 45 per cent which did develop were specially malignant. He inoculated these gas-treated tumors into 150 untreated animals without one single tumor developing—an astonishing result. With Dr. W. E. Gye, I have tried Fischer-Wasels' gas mixture on mouse carcinoma, but we were not able to confirm the above results. Fischer-Wasels has tried the effect of insulin alone and in combination with glucose and the special gas mixture. The latter combined therapy produced a considerable diminution in rate of growth, also a reduction in size and much necrosis, but there was no complete healing in a living animal.

Conclusion.—Gas therapy alone, so far as it has been tested, is of no value for the destruction of cancer cells. Although breathing a gas mixture of 95 per cent oxygen and 5 per cent carbon dioxide for two to four hours daily may greatly relieve human cancer patients with general weakness and anemia and prolong their lives, there is not sufficient evidence to decide whether the tumor and its metastases are influenced in any way by this gas mixture. Nor is it possible to decide whether better results for the destruction of tumor cells will be obtained by the use of the gas mixture in combination with radiation (x-rays and radium) than by the use of radiation alone.

Abstracted from a "Critical Review of the Use of Gas Mixtures in Cancer Therapy" by J. Argyll Campbell, *The Cancer Review*, Vol. 6, pp. 289-303, 1931,

A. R. KILGORE, Secretary.

THE WOMAN'S AUXILIARY OF THE CALIFORNIA MEDICAL ASSOCIATION*

Santa Barbara County.—The Woman's Auxiliary of the Santa Barbara County Medical Society met in the auditorium of the Knapp School of Nursing, Cottage Hospital, March 14, at 8:15 p. m.

Dr. H. J. Ullmann presented the Canti film, which shows growing tissue and the effect of radium on growing and pathological tissue.

Mrs. F. E. Blaisdell, Jr., gave a very good book review, "What Life Should Mean to Us" by the famous exponent of individual psychology, Dr. Alfred Adler.

Following the program a short business meeting was held. Mrs. Blaisdell resigned as treasurer, and Mrs. Holzman was elected in her place.

Delegates to the state convention will be appointed later. The president appointed the following com-

*As county auxiliaries to the Woman's Auxiliary of the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Louis H. Dyke, chairman of Publicity and Publications Committee, 6008 Rose Street, Oakland. Brief reports of county auxiliary meetings will be welcomed by Mrs. Dyke and must be sent to her before publication takes place in this column. For lists of state and county officers, see Advertising page 6. The Council of the California Medical Association has instructed the editors to allocate one page in every issue for Woman's Auxiliary notes.

*For a complete list of general officers, of standing committees, of section officers, and of executive officers of the component county societies, see index reference on the front cover, under Miscellany.

mittees: Membership, Mrs. Atsatt; Public Health, Mrs. Edward Lamb; Publicity, Mrs. Charles Stevens.

* * *

Orange County.—Quite a large number attended the March meeting of the Woman's Auxiliary to the Orange County Medical Association at the home of Mrs. Dexter R. Ball in Santa Ana. There was a brief business session, which began with reading of the minutes of the previous meeting. Satisfactory reports were given by chairmen of various committees. Flowers were sent to Mrs. Esslinger by the Courtesy Committee.

Mrs. Paige and Mrs. Neighbours are new members. A greeting was given to several state officers who were special guests, as were also some others.

Mrs. Coulter introduced the speaker, Doctor Comstock of Los Angeles and Pasadena, who spoke on "Factors of Heredity." She stated that everything is made up of cells with a controlling center. There is a gene for every inherited quality in each human being. Doctor Comstock had charts to illustrate the division and reuniting of cells.

After the meeting adjourned the hostess served a beautifully appointed tea.

* * *

San Luis Obispo County.—Mrs. Charles P. Proudfoot, secretary-treasurer of the Woman's Auxiliary of the San Luis Obispo County Medical Association, writes that the entire membership of their auxiliary is planning to attend the state convention in Pasadena.

A branch of the county library has been started in their General Hospital through the cooperation of the General Hospital superintendent and her staff of nurses and the county librarian. It will serve a daily average of 125 persons. The librarian plans to install two hundred books and magazines which will be wheeled about the hospital for the patients' inspection and choice.

The names of the new officers are as follows: Mrs. Howard E. Gallup, president; Mrs. Frederick R. Mugler, vice-president; Mrs. N. J. Shields, second vice-president; Mrs. Charles P. Proudfoot, secretary-treasurer; Mrs. Chester, J. Teass, corresponding secretary.

News

Mr. Cargill, circulation manager for *Hygeia*, in his recent report to the American Medical Association House of Delegates stated that the California auxiliary is the only source from which *Hygeia* subscriptions have showed a gain in 1931 over 1930.

* * *

In Oregon, which began its *Hygeia* drive following Mrs. McGlothlan's visit in November, subscriptions for *Hygeia* have been placed in 410 schools for use in their health work, and fifty-three other subscriptions have been received. The auxiliary in Oregon is starting a monthly mimeographed, single sheet, news letter, supplying state, national, and county news.

* * *

Preliminary program of Woman's Auxiliary meeting at New Orleans, May 9-13, at Jerusalem Temple, 1137 St. Charles Avenue:

Monday, May 9

6:00 p. m.—National board dinner and pre-convention meeting (for board members only), Orleans Club, 5005 St. Charles Avenue. Tickets \$1.50.

Tuesday, May 10

9:00 a. m.—General meeting, Jerusalem Temple, Mrs. Arthur B. McGlothlan, presiding.

12:30 p. m.—Buffet luncheon, Jerusalem Temple. Tickets, \$1.

2:00 p. m.—Walk through Vicux Carre, with guides, starting from the Patio Royale.

4:00 p. m.—Tea, Patio Royale.

8:00 p. m.—General meeting of the American Medical Association, Auditorium.

10:00 p. m.—Reception and dance in honor of the Woman's Auxiliary, Tip Top Inn, Roosevelt Hotel; hosts Orleans Parish Medical Society.

Wednesday, May 11

9:00 a. m.—General meeting, Jerusalem Temple, Mrs. Arthur B. McGlothlan presiding.

12:30 p. m.—*Auxiliary luncheon, Southern Yacht Club (twelve minutes from Canal Street or Jerusalem Temple). Luncheon tickets, \$1.50. Transportation, 25 cents.

2:30 p. m.—Post-convention board meeting, Southern Yacht Club.

2:30 p. m.—*Through Garden Gates; glimpses of New Orleans.

4:00 p. m.—Teas in private residences.

New Orleans Country Club:

8:30 p. m.—Divertissements in the Garden.

10:00 p. m.—Buffet supper.

Negro Spirituals, courtesy of the Woman's Auxiliary to the Louisiana State Medical Society.

Thursday, May 12

9:00 a. m.—General meeting, Jerusalem Temple, Mrs. Walter Jackson Freeman presiding.

10:00-10:50, 11:00-11:50 a. m.—Special Round Table conferences, Jerusalem Temple.

12:00 noon—Buffet luncheon, Jerusalem Temple. Tickets, \$1.

1:00 p. m.—*Trip to Oak Alley Plantation; visiting Spillway. Returning at 6 p. m. (Round trip, \$2 per person.)

Or 2:00 p. m.—*Round trip over Lake Pontchartrain, via New Bridges. (Two dollars per person.)

Or 2:30 p. m.—*Trip to Versailles Plantation, Battlefield of New Orleans; docks and wharves. (Round trip, \$1 per person.)

Or 2:30 p. m.—*Delgado Museum and City Park; Newcomb Art School and Audubon Park. (Round trip, \$1 per person.)

Or 2:30 p. m.—*Mayan Exhibit, Tulane University. (Round trip, 25 cents per person.)

9:00 p. m.—President's reception and ball, Auditorium.

Friday, May 13

9:00 a. m.—*Trip to Gulf Coast. Leave L. & N. Station at 9 a. m., returning to New Orleans at 6 p. m. (Round trip, including luncheon and beautiful scenic drive along the coast, \$6 per person.)

10:00 a. m.—Golf tournament, Metairie Golf Club.

COMPONENT COUNTY SOCIETIES

FRESNO COUNTY

The Board of Governors met at the University-Sequoia Club Monday noon, April 4, with Doctors Scarboro, Schmidt, Tillman, and Aller present. Bills to the amount of \$38.75 were audited and approved.

A letter was read from Dr. W. M. Dickie, director of the Department of Public Relations of the California Medical Association, requesting our society to appoint a committee on public relations. It was decided that our standing Publicity Committee act as the committee on public relations also.

A Parent-Teachers Association letter was read and discussed regarding pre-school examination. Doctor Scarboro will formulate a letter to the Parent-Teachers Association in reply.

* Transportation paid by individual.

All trips start from Jerusalem Temple.

The monthly meeting of the Fresno County Medical Society on April 5 was held at the Wish-I-Ah Sanitarium at Auberry, members being guests of Dr. E. R. Morris. Dinner was served at 6 p. m., followed by an inspection of the buildings.

Business meeting at 8 p. m. followed the dinner.

After reading of minutes and communications, the following letter was adopted, a copy ordered sent to the Parent-Teachers Association and one to the newspaper for publication.

Examinations of Pre-School Children:

"The problem of the pre-school examination has been brought up annually for two or three years and, in our opinion, has never been satisfactorily solved.

We gather that the idea of the Parent-Teachers Association is primarily to have a group of clinics for the pre-school child. We realize that this, theoretically, is a fine thing, but from the standpoint of the medical profession, quite impractical.

These children, and primarily their parents, fall into several groups:

1. A fairly large group who would prefer to go to their own physician for this examination and opinion as they are ordinarily accustomed to do.
2. A group who prefer some special physician, but cannot afford to pay for services. Any of us are glad to take care of these in our offices, as we do very often.
3. A group who do not care where they go and are definitely indigents. The General Hospital, through its director, has stated its willingness to help cover these at its regular clinic, under welfare rulings for admission to clinics.
4. A large group, unfortunately, indifferent to the examinations or its advice. It is our impression that some of these might come to a central clinic, but the advice would be wasted. If they are so indifferent that they cannot take the time to take the child to a doctor's office, certainly they cannot be expected to do so later for corrective work.
5. The schools have a definitely organized health department. We are informed by its head that it has never taken any part in these examinations in the past, nor does it anticipate doing so now. It would seem to us that the check-up of the school child is one of its primary functions, and it should cover certainly a large group of three and four, either before the school is out in spring, or early in the fall. It is extremely impractical for a physician to pick up a few instruments and go to a large room, unequipped, and make a group of examinations that are of any practical value, while if a child is brought to his office a few minutes with proper equipment is much more efficient. This is a factor which we are considering most.

It would seem to us that much more could be accomplished by trying to educate parents to have their children examined under proper circumstances, rather than have a group of inefficient clinics at times which are inadequate.

Hoping this gives you the attitude and opinion of the Fresno County Medical Society, this report being unanimously adopted at its last regular meeting. This should solve your problem once and for all."

Committee reports then were presented.

Dr. C. O. Mitchell reported that a radio had been purchased for Dr. W. T. Crawford of Fowler and delivered to him. Dr. Crawford is sixty-eight years of age and has suffered loss of vision from glaucoma. Doctor Crawford was indeed very much pleased with his gift.

Doctor James reported for his committee on vaccination of dogs for rabies.

Twelve thousand dogs had been vaccinated, one thousand killed, and five thousand in the county had received no treatment.

Doctor Frawley, from the same committee, thinks there are too many cases of rabies in the county, about twenty cases having been treated at the General Hos-

pital. He thinks the county supervisors should do more about it.

Dr. C. O. Mitchell moved that the present committee be continued and the Board of Supervisors be again urged to give the rabies situation its immediate attention. Seconded by Doctor Tillman and carried.

Doctor Dau, from the Committee on Tuberculosis, reported the need of more beds and that the campaign on early diagnosis of tuberculosis had done a great deal of good, especially in smaller communities. The new campaign is being started now.

Doctor Scarboro reported that a resolution of condolence and regret in the passing of Dr. Harry Craycroft would be formulated and mailed to the family as well as placed on the minutes of the society.

Dr. E. R. Morris, the host as well as speaker of the evening, told of the national campaign through the state and local organization for the early diagnosis of tuberculosis. Literature is to be sent out to all. Schools are urged through teachers and principals to be alert for symptoms and send pupils to doctors. The present bed capacity cannot be increased, as it is all the county can support. Many persons will have to take treatment at home under supervision of family physicians. Patients in the institutions have a thorough course in the care of tuberculosis patients, and when they go out from there they will help educate the community in which they live.

Doctor Morris gave a very able discussion as to arriving at a definite correct diagnosis of early tuberculosis through history, inspection, palpation, percussion, auscultation, x-ray examination, and through laboratory tests.

ELMER J. SCHMIDT, *Secretary.*

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NAPA COUNTY

The regular monthly meeting of the Napa County Medical Society was held at Cedar Gables, Napa, April 6. The meeting was preceded by an excellent dinner.

The meeting was called to order by President C. H. Bulson.

Members present were: Doctors C. H. Bulson, C. A. Johnson, G. I. Dawson, A. K. McGrath, G. J. Wood, H. V. Baker, L. Welti, W. L. Blodgett, D. H. Murray, and M. M. Booth.

The following guests present were: Dr. D. E. Osborne of St. Helena and Mr. Eric Lawson of Rutherford.

The society was honored by the presence of Dr. D. E. Osborne of St. Helena, who was one of the founders of the Napa County Medical Society and who wrote the constitution and by-laws of the society. Doctor Osborne was called upon by President Bulson for a few remarks. He spoke on medicine and surgery of the time when he was a student at the University of Michigan and during the time of his earlier years in practice. He stated that modern medical and surgical science is scarcely seventy years old, Lord Lister having first used the carbolic spray in surgery in May, 1866.

Mr. Eric Lawson of Rutherford, as a representative of the Napa County Tax Reduction League, was present and spoke on tax reduction, giving the society a rather concise idea of the tax conditions in the county.

Dr. D. H. Murray of Napa gave an excellent paper on *Pneumonia*, discussing the etiology, complications, sequelae, and treatment. He covered the subject in a most complete fashion, stressed the use of digitalis therapy where indicated, and the necessity of expert nursing. His paper was discussed capably by Dr. Lawrence Welti of Napa.

Dr. C. A. Johnson of Napa read an interesting paper on *Physiotherapy*. He stressed the selected treatment by diathermy for sprains, bruises, myositis, osteomyelitis, fractures, etc. Doctor Johnson stated he feels that the medical profession has been lax in the use of physiotherapy and that this laxness has

probably resulted in people getting into the hands of irregular practitioners. His paper was discussed by Doctors C. H. Bulson and D. H. Murray.

M. M. BOOTH, *Secretary*.

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ORANGE COUNTY

The regular monthly meeting of the Orange County Medical Association was held on Tuesday, April 5, at 8 p. m. in the Chapel of the County Hospital. Besides a good attendance of members, many nurses of the Orange County Nurses' Association were present as special guests. The meeting was called to order by Vice-President Wallace in the absence of the president. A report of the most recent meeting of the board of managers was made by the secretary, in which was outlined the details of a proposed medical contract of the California Medical Corporation, Ltd., and the board's action in recommending that all members refrain from entering into such a contract. It was moved by Dr. H. A. Johnston and seconded by Dr. S. Theron Johnston that the board's recommendation be upheld by this society. This was unanimously carried. A report by Dr. R. A. Cushman, chairman of the Committee on Medical Economics, was made in which he stated that a meeting of his committee was recently held and the questionnaire from the American Medical Association carefully studied. This questionnaire has since been filled out and forwarded to the national secretary.

The question as to a patron membership to be taken out in the Barlow Medical Library for another year was discussed. Many members expressed their approval of such action, and on motion by Doctor Zaiser, seconded by Doctor Burlew, it was unanimously carried that the society continue its membership in the Barlow Medical Library for another year.

A letter of thanks and appreciation from relatives was read by the secretary for the bouquet of flowers sent to the recent funeral of Mrs. Wickett.

The first reading on the application of Dr. Harry C. Nelson, on transfer from San Bernardino County, was heard.

The scientific program of the evening consisted of two excellent papers on *Tuberculosis*. Dr. Edward W. Hayes of Monrovia chose *Childhood Tuberculosis* as his subject; this paper was beautifully illustrated by lantern slides. He stressed the importance of early diagnosis and explained the various changes that take place in this particular type of infection. Dr. Waldo Wehrly of Santa Ana gave a most interesting and practical paper on *Work at the Orange County Sanitarium*. A large number of x-rays were shown of his patients in the different stages of the disease. Discussion of these papers was led by Doctors F. O. Kaps and K. H. Sutherland of Santa Ana and Dr. H. A. Johnston of Anaheim. A unanimous vote of appreciation was extended to Doctors Hayes and Wehrly for their part in the evening's program.

HARRY G. HUFFMAN, *Secretary*.

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PLACER COUNTY

The Placer County Medical Society held its March meeting at the Freeman Hotel in Auburn on Saturday evening, March 26, at eight o'clock. There were present the following members and visitors:

Members—Doctors Eveleth, Kalman, Miller, Schofield, C. C. Briner, Monica Stoy Briner, Dunievitz, Kindopp, Russell, Fay, L. E. Jones, Lewis, Rooney, Mackay, Myers, P. D. Barnes, and Peers.

Visitors—Doctor Hirsch of Los Angeles, Doctors Kanner, Zimmermann, Gundrum, Scatena and Schoff of Sacramento, Dr. Ward of Auburn, Dr. Charles W. Singer of London, England, and Dr. Robert T. Legge of Berkeley.

Following the routine business, President Eveleth introduced Dr. Robert T. Legge, professor of hygiene and university physician of the University of California, who addressed the society on the subject, *Hazards of the Modern Home and Methods of Treatment*.

Doctor Legge outlined the dangers of carbon monoxide, poisonous chemical solvents, refrigerants, insecticides, and injuries due to burns and electric shock, following which he outlined the latest therapeutic measures adopted by physicians to counteract the effects of these poisons.

The second address of the evening was given by Dr. Charles W. Singer, professor of medical history of the University of London, England, and one of the world's eminent medical historians. Doctor Singer's subject was *Hippocrates, the Father of Medicine*.

Doctor Singer traced the origin of Greek medicine, gave a description of the form of the original temple of Aesculapius and outlined the course of the patient from the time of his arrival through the various shrines and gave a description of the treatment such a patient received. He also sketched the life of Hippocrates and, in a most interesting manner, told the story of his work, aphorisms, and of the Hippocratic oath. The lecture was profusely illustrated by lantern slides.

ROBERT A. PEERS, *Secretary*.

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SAN BERNARDINO COUNTY

The April meeting of the San Bernardino County Medical Society was held at Loma Linda on Tuesday, the twelfth.

Dinner was served at 7 p. m., seventy-five members and guests being present.

The meeting was opened at 8 p. m. by the president. Dr. A. N. Webb of Lake Arrowhead was unanimously voted on for membership.

Nominations for officers from the floor were called for, but none were made.

Two papers were then read: *Treatment of Osteomyelitis with Special Reference to the Use of Maggots* by Dr. S. B. Richards of San Bernardino, with discussion opened by Dr. F. E. Clough of San Bernardino; and *Treatment of Fractures at the Neck of the Femur with Special Reference to and Demonstration of the Use of the Jones Splint* by Dr. A. E. Gallant of Los Angeles. Discussion was opened by Dr. K. L. Dole of Redlands.

An unexpected addition to the program was the appearance of Dr. C. Jones, who supplemented the second paper by an illustrated discussion of the use of his splint.

The secretary was instructed to thank the members of the staff at Loma Linda for the most excellent dinner and evening's entertainment.

E. J. EYTINGE, *Secretary*.

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SAN DIEGO COUNTY

The regular meeting on March 8 was addressed by Dr. George Piness of Los Angeles. Doctor Piness spoke on *Practical Application of Allergy in General Medicine*.

On Wednesday, March 23, the Academy of Medicine presented Dr. George E. Brown, head of the medical division Mayo Clinic, in a lecture on *Hypertension*. Doctor Brown presented the pathology of the various stages of hypertension and demonstrated the course of hypertension cases of long periods of time, showing seasonal variation and the effects on the physical and the emotional stress. He also considered the relationship of sympathectomy and various drugs to hypertension.

Through the courtesy of the Academy of Medicine the guest speaker at the regular meeting of the county society on April 12 was Dr. Walter Bradford Cannon of Boston. Doctor Cannon spoke on *The Role of the Sympathetic System in the Control of Internal Environment*.

The hospital committee for the San Diego General Hospital has authorized the reopening of the malignancy board at the County Hospital. The board is to consist of the members of the surgical staff during their rotating term of service, the resident pathologist and the resident radiologist, with the assistance of a group of consultants in surgery, pathology, medicine, and radiology.

LYELL C. KINNEY.

SAN JOAQUIN COUNTY

The stated meeting of the San Joaquin County Medical Society was held Thursday, March 3, at 8:30 p. m. in the Medico-Dental clubrooms, 242 North Sutter Street, Stockton. The meeting was called to order by President George H. Sanderson.

The applications of Doctors Langdon and Kyddson, having been approved by the Committee of Admissions and by the state office, these doctors were declared members of the society. The application of Doctor Griner was read and passed to the Committee on Admissions.

The matter of the conduct of free and county clinics was read and passed to a special committee appointed by Doctor Sanderson, consisting of Doctors Sippy, Gallegos, and English.

There being no further business the scientific program was opened by Dr. Maurice L. Lubin of San Francisco with a paper on *Postoperative Pulmonary Complications—Their Prevention and Treatment*. Doctor Lubin said that postoperative pulmonary atelectasis can be prevented, it is amenable to treatment, and if more of us will give this pulmonary complication the consideration which it warrants, the patient will not only be spared an unnecessary burden during his postoperative convalescence, but the incidence of postoperative atelectasis and postoperative pneumonia will be diminished.

In conclusion, Doctor Lubin stated:

1. The prophylaxis and treatment of postoperative pulmonary atelectasis precluded a clear understanding of the mechanism of its etiological factors, namely, internal drainage.

2. By internal drainage is meant the movement of secretions from place to place within the tracheobronchial tree so that bronchi are occluded and infection is spread. The movements of these secretions are dependent upon the posture of the patient, the nature and quantity of the tracheobronchial secretions and the size and course of the bronchial stems.

3. Buccal and nasal secretions, by gravitating into the tracheobronchial tree even during the presence of the cough reflex, play a significant rôle in the production of pulmonary atelectasis and pneumonia.

4. The early recognition of postoperative pulmonary atelectasis is important for two reasons: First, it allows an earlier institution of treatment, and facilitates a more prompt return of the atelectatic lobe to normal; second, it obviates the dreaded postoperative pneumonia which may occur in atelectasis of longer duration.

5. The administration of postural exercises, carbon dioxide inhalations, and expectorants are of proven value in the treatment of postoperative pulmonary atelectasis.

6. Bronchoscopy, in specific instances, warrants a place in our armamentarium for the prophylaxis and treatment.

7. An appreciation of internal drainage and proper application of its fundamental factors can diminish the incidence of postoperative pulmonary atelectasis and postoperative pneumonia.

Dr. Edward C. Faulkner of San Francisco spoke on *Diagnostic Pneumothorax—Its Value in the Accurate Localization of Intrathoracic Tumors*. His paper was very well illustrated with schematic lantern slides. He also had a number of x-ray plates to demonstrate the effects of the Singer-Phillips pneumothorax apparatus during inspiration and during expiration, and with the patient in the horizontal position.

The doctor arrived at the following conclusions:

1. The introduction of air into the pleural cavity for diagnostic purposes has been termed "diagnostic pneumothorax." The procedure is relatively easy to perform and does not aggravate the patient's condition.

2. Diagnostic pneumothorax is of definite value in the localization of intrathoracic tumors and permits the differentiation of mediastinal masses from those arising in the lung, pleura, and chest wall.

3. It also indicates the amount of mobility of the mediastinum, the site of pleural adhesions, and the problems likely to be met at the time of the operation.

4. The diagnostic pneumothorax study of mediastinal tumors is incomplete unless a careful fluoroscopic examination is made in addition to the roentgen plates.

Dr. William B. Faulkner, Jr., of San Francisco read a paper on *The Conservative Treatment of Pulmonary Abscesses*. He said the treatment was essentially that for other abscesses. In general, to build up the patient's resistance; to provide drainage and obliteration, and give postural exercises. He illustrated his talk with views to show the different types of abscess; the effect of various complications; and the results of posture and drainage. In conclusion, he emphasized the fact that 80 per cent of the cases are cured by pneumothorax alone. Chronic cases must be dealt with by surgical treatment.

At the close of the symposium the papers were discussed by Doctors Vischi, O'Connor, Dewey Powell, and Broadbuss.

C. A. BROADBUSS, Secretary.



SANTA BARBARA COUNTY

The regular meeting of the Santa Barbara County Medical Society was held on Monday evening, April 11, at St. Francis Hospital, with President H. O. Koefod presiding.

The president introduced Dr. Henry J. John of the Cleveland Clinic, who gave a most complete and comprehensive discussion of *The Carbohydrate Metabolism in Hyperthyroidism*. During the discussion he presented statistical charts and also the charts of a series of patients, showing disturbed carbohydrate metabolism in hyperthyroidism. The paper was discussed by Doctors Sansum, Gray, Shelton, and Koehler.

The society then went into executive session and the Public Relations Committee presented the following recommendations, through the chairman, Doctor Henderson:

1. That the plan presented at the last meeting of the society regarding the amalgamation of the county and city health departments does not appear to be a practicable nor a feasible one for Santa Barbara. A more complete report, with a suggested plan, will be given at the next meeting.

2. That no member of the society be forced by any organization at any time nor under any circumstances to care for any patient not an indigent, without charge. (This recommendation was made in view of the fact that the county carries no industrial insurance and the supervisors have issued an order that all injured employees be taken care of in the General Hospital by the county physician and staff without pay.)

3. That a publicity committee of three or more members be appointed with the following duties:

- (a) Censorship or sponsorship of all newspaper articles emanating from the society or any member thereof.

- (b) Direct appropriate publicity for worthwhile movements.

After discussion by Doctors Freidell, Atsatt, Brown, Stevens, and Ullmann, it was moved, seconded and unanimously carried, that the recommendations be adopted and spread upon the minutes of the meeting.

The president appointed on the Publicity Committee the following: Doctors Freidell (chairman), N. H. Brush, and C. T. Roome.

Doctor Ullmann, counselor for this district, made an official visit and reported that Dr. Walter M. Dickie has been appointed director of Public Relations, to serve until the state meeting.

He also reported, as a member of the Cancer Commission, the following:

"The Cancer Committee are to meet the cancer problem through educational propaganda to the medical profession, stressing the early diagnosis and proper treatment. The committee are also going to give a standard procedure for determining the salient points on diagnosis and the minimum requirements for treatment."

The president appointed Doctor Means as chairman of the History and Obituaries Committee.

The application of Dr. Harry H. Alexander was read and upon balloting he was unanimously elected into the membership of the society.

W. H. EATON, *Secretary*.

SANTA CLARA COUNTY

The regular March meeting of the society was called to order by President Fagerstrom in the Medico-Dental Building auditorium.

The applications for membership of the following doctors were read and referred to the Admissions Committee: Dr. Leon Melkonian, Gilroy; Dr. E. M. Roth, Palo Alto.

The following physicians, having been favorably recommended by the Admissions Committee, were elected into the society: Dr. G. D. Barnett (transfer), Palo Alto; Dr. Isidor E. LeDuc, San Jose.

A communication from the Parent-Teachers Association thanking the society for its cooperation in the past, and announcing their intention to conduct a round-up in the fall was read.

The following program of talking motion pictures was presented through the courtesy of the Petrolagar Company:

1. *Anatomy of the Female Pelvis and Perineum* by Drs. H. B. Kellogg and W. S. Windle, department of anatomy, Northwestern University, Chicago.

2. (a) *Subtotal Abdominal Hysterectomy for Uterine Fibroids*.

(b) *Vaginal Hysterectomy for Uterine Prolapse* by Dr. H. O. Jones, department of gynecology, Northwestern University.

LUCAS W. EMPEY, *Secretary*.

SONOMA COUNTY

The April meeting of the Sonoma County Medical Society was held at the Sonoma State Home at Eldridge. Dr. F. O. Butler, medical superintendent, entertained the members of the Napa County Society as guests. Fifty-four were in attendance and a delightful dinner preceded the meeting.

The applications for membership of Dr. D. C. Oakleaf of Cloverdale, Dr. E. T. Noall of Santa Rosa, and Dr. M. B. McAulay of Petaluma were presented and favorably acted upon.

The program consisted of talking moving pictures demonstrating surgical operative treatment, and were supplied by the Petrolagar Company.

W. C. SHIPLEY, *Secretary*.

STANISLAUS COUNTY

The regular monthly meeting of the Stanislaus County Medical Society was held on April 8, nineteen members of the medical society being present.

No new business came before the meeting.

Doctor DeLappe discussed the moving of moribund cases to the County Hospital. He suggested that the county officials attend such patients in homes without moving the patient to the hospital.

Mr. Hoff, a representative from the Petrolagar Laboratories, showed four reels of motion pictures, which were very interesting, on *Anatomy of the Female Pelvis and Perineum* and *Repair of Urethrocele, Cystocele, and Lacerations of the Cervix*.

DONALD L. ROBERTSON, *Secretary*.

TULARE COUNTY

The regular meeting of the Tulare County Medical Society was given over to the annual meeting with the Tulare County Bar Association, preceded by a banquet at Motley's Café at 6 p. m.

Dr. J. C. Geiger, health officer of San Francisco City and County, delivered the address of the evening.

His subject was *Fifty Years' Progress in Public Health*, an inspiring talk that was equally enjoyed by members of both professions.

Attorney Thomas Crowe president of the Tulare County Bar Association, responded for the members of the bar in expressing appreciation to Doctor Geiger for his instructive address.

The meeting was made all the more enjoyable through the kindness of Mrs. Fred G. Kline, who rendered several vocal numbers, accompanied by Miss Elsie Magarian at the piano.

Fifty-four members and guests were in attendance.

The minutes of the previous meeting were not heard, but it is reported by the committee appointed that the Tulare County supervisors turned down the proposal to establish a full-time health unit in Tulare County. Dr. Giles S. Porter presented the plan to the supervisory body.

KARL F. WEISS, *Secretary*.

VENTURA COUNTY

The April meeting of the Ventura County Medical Society was held in the Clinic building of the Ventura County Hospital at 8 p. m. on April 12, Dr. W. S. Clark presiding.

Those present were: Doctors Foskett, Bianchi, Mosher, Coffey, Illick, Achenbach, W. S. Clark, Smolt, Lillian Smolt, Groff, King, Bardill, Shore, Hendricks, Homer, Grant Clark, Felberbaum, and Armitstead. Guests: Doctors Nevius and Ullmann.

The society has been notified by the Bank of Levy, Oxnard, that there is a balance of \$34.50 to its credit there that dates from 1922.

Doctor Nevius of Los Angeles presented some interesting x-rays, and discussed the treatment of pulmonary tuberculosis by pneumothorax.

Doctor Ullmann, junior councilor for the district, and also member of the Cancer Commission, spoke on the objects of the Cancer Commission.

Doctor Mosher was appointed chairman of a Committee on Public Relations, such committee being requested by the State Association.

Dr. D. G. Clark was appointed program chairman for the May meeting.

ARTEMAS J. STRONG, *Secretary*.

CHANGES IN MEMBERSHIP

New Members (72)

Alameda County—Lynn Foree, Frank K. Haight Norman B. Leet, Harlin L. Wynns.

Fresno County—Wayne A. Hunt, Charles E. Nixon.

Kern County—George R. Cutting, Harold Louis Schlotthauer, Madge Quick Schlotthauer.

Los Angeles County—

Daniel H. Calder
William Philip Corr
Frederick J. Crease
Irving Herbert Eddy
T. K. Farnsworth
Kenneth W. Gordon
George B. Greenbaum
Charles Lyle Hawk
A. Ludwig Lindberg
Edward Clarence Lynch
William L. C. Macbeth
George E. Malmgren
Alex. B. Montgomery
Paul H. Moore
Elmer S. Mortensen

Fred H. Nelson
Barclay E. Noble
Waldo R. Oechsli
Roderick Alan Ogden
Francis M. Pottenger, Jr.
Frank Lane Ready
Paul A. Reichle
John P. Sampson
Harry A. Smith
Lyndon E. Taylor
Harry Wellington Vance
Wesley Bailey Van Cott
C. Fred Wilcox
M. E. Wilmoth

Merced County—James Ashley Parker.

Monterey County—Joseph Bernard McCarthy.

Sacramento County—Edward C. Faulkner.

San Bernardino County—Donald S. Gidley, George Max Webster.

San Diego County—Winston C. Crabtree, Francis Edward Jacobs.

San Francisco County—

H. Glenn Bell
Konstantine I. Berejkoff
David K. Chang
Harry Eugene Coffey
Norman Austin David
Martin W. Debenham
Clifford E. Dietderich
Olive Nisley Ehrenclo
John Henry Golden
Avery M. Hicks
Louise C. Knight

George T. Lenahan
Joy L. McClure
Meyer Louis Mizel
Thomas Francis Mullen
George E. Nasser
Wrenshall A. Oliver
Ernest V. Orsborn
Wallace B. Sargent
Salvatore Schiro
Harlan Lewis Smith

*Solano County—*H. Vance Clymer.

*Stanislaus County—*Richard D. Husband.

*Yolo-Colusa-Glenn County—*Jerome Lee Rawhauser,
Ray E. Nichols, T. Deane.

Transfers (3)

James B. Cutter, from San Francisco to Los Angeles County.

George G. Hawkins, from San Joaquin to Fresno County.

George C. Sabichi, from Kern to Los Angeles County.

Resignations (11)

Leo Buerger, from Los Angeles County.

Milton H. Damron, from Los Angeles County.

John N. Force, from Alameda County.

Ernest V. Frederick, from Los Angeles County.

Hiram W. Hunsaker, from San Francisco County.

George Childs Macdonald, from San Francisco County.

Peter Obarrio, from San Francisco County.

Weston O. Smith, from Alameda County.

William E. Styan, from San Francisco County.

William F. Wagner, from Los Angeles County.

John Zieg, from San Francisco County.

In Memoriam

Davidson, Anstruther. Died in Los Angeles, April 3, 1923, age 72 years. Graduate of University of Glasgow, Scotland, 1881. Licensed in California, 1889. Doctor Davidson was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

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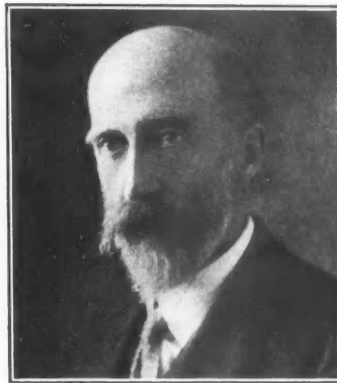
Kempff, Louis Adolph. Died March 27, 1932, age 51 years. Graduate of St. Louis University School of Medicine, Missouri, 1904. Licensed in California, 1919. Doctor Kempff was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

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Miller, Albert Leonard. Died in Yuba City, March 22, 1932, age 61 years. Graduate of Rush Medical College, Chicago, 1896. Licensed in California, 1904. Doctor Miller was a member of the Yuba-Sutter County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

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Reed, Wallace Allison. Died in Covina, March 27, 1932, age 43 years. Graduate of University and Bellevue Hospital Medical College, New York City, 1913. Licensed in California, 1914. Doctor Reed was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

OBITUARIES**Anstruther Davidson****1860-1932**

A life of usefulness and great activity was brought to a close when death took from our midst Dr. Anstruther Davidson on April 3.

Doctor Davidson was born at Coithnessshire, Scotland, February 19, 1860. He graduated in medicine from the University of Glasgow in 1881 and practiced in southern Scotland until 1889 when, following post-graduate work in Vienna under Hebra, he came to Los Angeles. During his professional career Doctor Davidson held many positions of honor and trust. He was associate professor of dermatology at the University of Southern California in 1909, and was for many years a consultant on many Los Angeles Hospital staffs. He was a fellow and former president of the Southern California Academy of Sciences, a member of the Entomological Society of Philadelphia, a member and former president of the Clan Dahi of the United States, and of the Los Angeles Dermatological societies, respectively.

He was a recognized authority in botany and entomology, and was author of "Plant Life in Los Angeles County" and "Flora of Southern California." Doctor Davidson was also well known as a contributor to many scientific journals.

During his long life of services he made a legion of friends who, together with his medical and scientific associates, will miss this scholarly and kindly gentleman.

CHRIS R. HALLORAN, M. D.

Ernest Gustave Tillmanns**1881-1932**

Dr. Ernest G. Tillmanns was born June 23, 1881, at Haan, Germany. He was a brilliant student in foreign languages at Bielefeld Gymnasium, and graduated as the youngest student from Elmhurst and Eden and McCormick Theological colleges in this country. Doctor Tillmanns spent several years in the ministry in this country and in 1904 went as a missionary to India. There in the Central Provinces, he served six years, speaking the Hindu language like a native. Having charge of the Chattisgar Leper Colony, he became very efficient in the diagnosis and care of skin diseases. Because he was a fine and courageous hunter, he was at times called to villages to deliver the natives from a man-eating tiger or leopard.

He returned to our country in 1910 and took up the study of medicine at Rush Medical College, where again he was one of the best students. He had fine surgical ability, and after his internship at the Los Angeles County General Hospital (1915-1916) practiced medicine in the Imperial Valley and for the last eleven years at Los Angeles. He endeared himself

by his splendid personality to both patients and colleagues.

Having done considerable work in ophthalmology and having become interested in aviation, he took a government course for flight surgeon at Brooks Field, Texas, in 1928, and by his fine sportsman character was highly esteemed by his class and teachers. A boy he was with the boys. Returning to Los Angeles, he took up flying, had his own ship and was very proud of this art at the time, being most liberal toward his friends and brothers. He had over five hundred hours to his credit and was a very cool flyer. He was appointed examiner by the Department of Commerce and was well liked in Army circles, being appointed major a short time before his death. He was a most enthusiastic student of navigation, and in his study of astronomy he was very happy. Getting a sextant only a few days before his accident, he made careful observations of the setting sun from Palos Verde hills on January 24, and he was as proud of it as one could be.

Doctor Tillmanns was teaching a younger brother landings in his new Monocoupe on January 25, when the brother fainted or died while in control of the stick from a far advanced coronary trouble, so freezing the stick and causing a crash fatal to both.

Major Tillmanns was a true sportsman, a sincere and earnest Christian. By his death the Army lost a most hopeful strength, and his many friends in several continents a dear and supporting friend.

Of splendid physical proportions, Doctor Tillmanns was a great mountain climber, and with ease climbed every mountain in California, often carrying a sick and prostrate comrade to safety. On a mountain climb, his fine person could be seen silhouetted against the skyline far in advance of the others; now he has disappeared for a while, just over the skyline.



George W. McCoy
1871-1932

George Washington McCoy, a member of the Los Angeles and California Medical Associations, who had long occupied a prominent place among eye, ear, nose, and throat physicians, died at the California Hospital on Thursday, April 21, 1932. Some six weeks before he was taken ill, but had sufficiently recovered to return to his work. Two days later, while in his office, he suffered a relapse, was taken to the hospital and expired suddenly on Thursday morning. Death was due to a coronary lesion.

Doctor McCoy was born at Bellebrook, Ohio, January 14, 1871, graduated from the Ohio Wesleyan University where he received his master's degree in 1901. From the University of Cincinnati he received his degree of doctor of medicine as a member of the class of 1904. Internship was at the Cincinnati Hospital and at the Manhattan Eye, Ear, Nose, and Throat

Hospital. Postgraduate studies were in London and Vienna. He had practiced in Los Angeles since 1908.

At the Los Angeles County General Hospital he had been a member of the senior attending staff on the Eye Service for a goodly number of years. He was also a member of the Executive Medical Board of the California Hospital from the time of its reorganization in 1922.

Because of his genial disposition, his high professional qualifications and his sterling character he had a host of friends, both in the profession and among the laity. His death will be keenly felt.

IN MEMORIAM—GEORGE W. MCCOY

Adopted by the Los Angeles Society of Ophthalmology and Otolaryngology at its meeting on April 25.

Whereas, An All-wise Power has seen fit to take from life's tasks on earth a fellow member of the Los Angeles Society of Ophthalmology and Otolaryngology who during his years of service in our midst ever played the part of the true physician; and

Whereas, In the death of Dr. George W. McCoy in the prime of life, the medical profession, the public, his friends and family have all suffered a grievous loss; now therefore be it

Resolved, By the Los Angeles Society of Ophthalmology and Otolaryngology that the sympathy of the members of this society is extended to the bereaved family; and be it further

Resolved, That a copy of these resolutions be placed in the minutes and records of the Los Angeles Society of Ophthalmology and Otolaryngology as an expression of the high regard and esteem which the members of that society have ever held for this their friend and colleague because of his personal work and integrity, his fine expression of service to his profession and to his patients, and the honor that he brought to his profession; and be it further

Resolved, That a copy of these resolutions be sent to the bereaved family and to the official publications of the California Medical Association and the Los Angeles County Medical Society.

NEVADA STATE MEDICAL ASSOCIATION

A. C. OLMSTED, Wells.....	President
O. HOVENDEN, McGill.....	President-Elect
J. H. HASTINGS, Ploche.....	First Vice-President
E. E. HAMER, Carson City.....	Second Vice-President
HORACE J. BROWN, Reno.....	Secretary

COMPONENT COUNTY SOCIETIES

WASHOE COUNTY

The regular monthly meeting of the Washoe County Medical Society took place on the evening of April 12, in the State Building, Reno.

All officers of the society were present.

Telegrams from Senators Pittman and Oddie and Representative Samuel L. Arentz, likewise letters from the Judiciary Committee from House and Senate with reference to the Copeland Medicinal Liquor Prescription Bill were read. No other communications were presented.

Doctor Brown showed the society a specimen of *Fetal Craniomielia*, a case of congenital fissure of the cranial vault, with brain protrusion through the same. Apparently the fetus was full term. It was sent here from Hawthorne, where delivery had taken place about three weeks previous. This rare specimen was given by Doctor Bath to Professor Frandsen of the University of Nevada to demonstrate in his teaching to the premedical students.

Discussion of the new schedule of fees by the Nevada Industrial Commission came up and after full discussion the chair appointed a committee of Doctors

M. A. Robison (chairman), Morrison, Bart Hood, Brown, Muller, and Bath to confer with a representative of the Industrial Commission and endeavor to reach an agreement over certain contested features.

Next followed a cinema on *Spinal Anesthesia*, kindly loaned by the Metz Chemical Company of San Francisco. The film was highly instructive and greatly enjoyed. The society voted their thanks to the company for the courtesy.

In view of further discussion on the Industrial Commission fee schedule, the society adjourned. On the night of April 19 the society will meet with the commission at the usual place of meeting.

THOMAS W. BATH, *Secretary*.

UTAH STATE MEDICAL ASSOCIATION

R. A. PEARSE, Brigham City.....President
F. M. McHUGH, Salt Lake City.....President-Elect
L. R. COWANS, Salt Lake City.....Secretary
J. U. GIESY, Kearns Building, Salt Lake City
.....Associate Editor for Utah

COMPONENT COUNTY SOCIETIES SALT LAKE COUNTY

On Monday evening, March 14, a meeting of the Salt Lake County Medical Society was held at the St. Marks Hospital. The meeting was called to order at 8:30 o'clock. There were forty-two members and four guests present.

A letter from the president of the Community Chest thanking the medical profession for its support was read.

The president then turned the meeting over to Dr. R. Jellison, president of the St. Marks Hospital staff.

Dr. Frank Spencer reported a case of "Traumatic Section of the Jejunum."

Dr. R. S. Allison reported a case of "Streptococcus Septicemia Following a Vincent's Angina Treated with Sodium Ricinoleate Intravenously and Recovery." This was discussed by Dr. T. C. Gibson.

Dr. W. N. Pugh presented a case of "Infectious Arthritis and Dislocation of the Hip Joint." He also presented a case of "Bursitis of the Iliopsoas Insertion." The latter case was discussed by Dr. W. T. Ward.

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A regular meeting of the Salt Lake County Medical Society was held on Monday evening, March 28, at the Newhouse Hotel. The meeting was called to order by the president at 8:05 o'clock. There were fifty-three members present.

Dr. L. N. Ossman presented a paper on "Bone Septis," reporting a number of cases. This was discussed by Doctors S. C. Baldwin, A. L. Huether, and E. F. Root.

Dr. W. D. Donohoe presented a paper on "The Removal of Tonsils by the General Practitioner." This paper was discussed by Doctors F. M. McHugh, E. LeCompte, J. P. Kerby, and E. F. Root.

Dr. F. M. McHugh reported for the Tuberculosis Committee. Dr. B. E. Bonar moved its adoption, seconded by Dr. S. G. Kahn, and passed without dissent.

Dr. R. T. Woolsey moved that the telephone listing page be continued. Seconded and passed.

Dr. W. R. Tyndale presented a report of interesting articles appearing in the current medical literature.

Dr. F. M. McHugh moved that the secretary send a letter to each congressman from Utah protesting against the passage of a bill pending in Congress against vivisection. Seconded by Dr. J. Z. Brown, and passed.

The following resolutions of regret were passed and ordered spread on the minutes and sent to relatives of the deceased.

IN MEMORIAM—FRANCIS SANBORN BASCOM

Whereas, Time in its inevitable march has at length brought the final hour to a respected and fruitful life, and in so closing its chapters has taken from us our friend and fellow worker, Dr. Francis Sanborn Bascom; and

Whereas, We of the Salt Lake County Medical Society, who knew him long and well, shall miss him from our ranks both as a society and as individuals; therefore be it

Resolved, That we express our regret of his passing in the form of a resolution to be spread as a permanent record upon the minutes of the society and that a copy of the same be sent over official signature to the family of the deceased.

* * *

IN MEMORIAM—J. N. ANDERSON

Whereas, In the death of our friend and comrade, Dr. J. N. Harrison, we of the Salt Lake County Medical Society have once more met the loss of one of our oldest members; and

Whereas, We who have known him so well and so long, must experience a deep feeling of regret in his future absence from our ranks; therefore be it

Resolved, That we pay a heartfelt respect to his memory in the form of a resolution to stand as a permanent record upon the minutes of our organization; while at the same time we bow our heads to the law of all flesh, which has thus in the end accorded to him that reward of all who have labored and grown weary—a peaceful and unbroken rest.

L. E. VICKO, *Secretary*.

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WEBER COUNTY

The regular meeting of the Weber County Medical Society was held March 17, at Dick's Café.

Dr. T. B. Beatty of the State Board of Health was introduced by President Badcon and discussed various phases of the relation of the physician to public health officials. He reviewed briefly his impressions of state medicine in Europe and assured the doctors that a closer coöperation between the physician and public health officials would go a long way toward preventing the introduction of this menace in our own country. He also discussed briefly the purpose of the organization of health centers, the Jones Bill which is now pending in Congress, and the necessity of reporting venereal diseases.

Dr. William D. Donohoe of Salt Lake City followed with a very interesting and instructive discussion on nasal sinus infection. He urged conservative treatment and advised surgery only as a final resort when more conservative treatment failed to cure.

WILLIAM M. MCKAY, *Secretary*.

OBITUARY

J. N. HARRISON, M. D.
1860-1932

A career of almost forty years as a Salt Lake physician ended Wednesday when Dr. J. N. Harrison, seventy-two, died at a local hospital of cancer.

Doctor Harrison, well known and with a wide circle of close friends here, had been ill for about three months, but his condition did not become serious until about ten days ago.

He was born near Pittsburgh and after being graduated from the University of Michigan and completing his medical studies in Germany, first practiced in Nebraska. He came to Salt Lake nearly forty years ago, and until a short time before his death had been in active practice.

Doctor Harrison had been a member of the local Eagles Lodge No. 67 for twenty-five years and served as lodge physician for twelve years until a year ago, when he resigned the post.

MISCELLANY

Under this department are ordinarily grouped: News; Medical Economics; Correspondence; Twenty-five Years Ago column; Department of Public Health; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the twentieth of the preceding month. For Book Reviews, see index on the front cover, under Miscellany.

NEWS

Coming Meetings—

American Medical Association, New Orleans, Louisiana, May 9-13, 1932, Olin West, M. D., 535 North Dearborn Street, Chicago, Illinois, secretary.

Association for the Study of Internal Secretions, New Orleans, May 9-10, 1932, F. M. Pottenger, M. D., 1930 Wilshire Boulevard, Los Angeles, secretary.

Pacific Northwest Medical Association, Spokane, Washington, June 27-29, 1932, C. W. Countryman, 280 Paulsen, Medical-Dental Building, Spokane, Washington.

Western Branch of the American Urological Association, Portland, Oregon, July 1 and 2, 1932, F. S. Dillingham, 320 Fidelity Building, Los Angeles, secretary.

Western Branch of the American Public Health Association, Denver, Colorado, June 9-11, 1932, W. P. Shepard, M. D., 600 Stockton Street, San Francisco, secretary.

American College of Physicians.—The following physicians were elected officers of the American College of Physicians at their annual session held in San Francisco April 4-8, 1932:

President, Francis M. Pottenger, M. D., Monrovia.

Vice-president, George M. Piersol, M. D., Philadelphia, Pennsylvania.

First vice-president, Maurice C. Pincoffs, M. D., Baltimore, Maryland.

Second vice-president, Charles G. Jennings, M. D., Detroit, Michigan.

Third vice-president, Noble Wiley Jones, Portland, Oregon.

Treasurer, Elmer H. Funk, M. D., Philadelphia, Pennsylvania.

Secretary, William G. Morgan, M. D., Washington, D. C.

Executive secretary, E. R. Loveland, M. D., 133 South Thirty-sixth Street, Philadelphia, Pennsylvania.

University of California Medical School.—Announcement is made that the University lecturer in the Medical School for the year 1932-33 will be Dr. W. McKim Marriott, dean and professor of pediatrics at Washington University School of Medicine, St. Louis, Missouri. Doctor Marriott will be at the Medical School early in the fall of 1932. He will conduct lectures and clinics similar to those conducted by other University lecturers.

Dr. Linn J. Boyd, professor of medicine at New York Homeopathic College, talked to students in the University of California Medical School during April, 1932. His talks covered the following subjects:

1. The Contributions of Homeopathy to Clinical Pharmacology during the Last Five Years.

2. The Pharmacologic Basis of Homeopathy.

Study of Heredity in Twins.—Professor Holmes of the University of California is directing a study of the manifestations of tuberculosis, cancer, mental defect, and insanity in twins, and especially identical twins, as a possible means of throwing light on the rôle of

heredity in causing such diseases and defects. Any information which you can give concerning twins whom you may know among patients or acquaintances who suffer from any of these afflictions will be of value in this research. Will you kindly send such information to Prof. S. J. Holmes, 4013 Life Sciences Building, University of California.

Western Branch of the American Public Health Association.—The third annual meeting of the Western Branch of the American Public Health Association will be held in Denver, Colorado, June 9, 10, and 11, 1932, immediately following the National Tuberculosis Association meeting.

The Western Branch of the American Public Health Association was organized in 1928, and with the sanction of the parent body, the American Public Health Association has increased its membership to over 1,600 during these four years. Its purposes are to offer western public health people opportunities for exchange of experience, interchange of views with our eastern colleagues, and in general to promote western public health development.

Three major items of special western importance will be included on the program at the Denver meeting: Psittacosis, now apparently endemic in native western birds of the parrot family, is to be discussed by Dr. Karl F. Meyer of the Hooper Foundation, San Francisco; reciprocal relations for the control of shellfish in Pacific ports to be discussed by the state health officers of California, Oregon, and Washington; Rocky Mountain spotted fever, with special reference to its similarity to typhus to be discussed by Dr. R. H. Riley, health officer of Maryland. Several national as well as western public health problems will be discussed by both eastern and western authorities.

The meeting is to be addressed by Dr. Louis I. Dublin, president of the American Public Health Association. The presiding officer will be Dr. E. T. Hanley, city health officer of Seattle, president of the Western Branch. Other national authorities who have accepted invitations to appear on the program are: Dr. John Ferrell, president-elect, American Public Health Association; Dr. E. L. Bishop, chairman of the Executive Board, American Public Health Association; Dr. Kendall Emerson, acting executive secretary, American Public Health Association; Dr. Taliaferro Clark, acting surgeon-general, United States Public Health Service; Dr. H. W. Hill, professor of bacteriology and nursing and of health, University of British Columbia, Vancouver; Dr. M. P. Ravenel, editor of the *Journal of the American Public Health Association*; and others.

Western Branch of the American Urological Association.—The eighth annual meeting of the Western Branch Society of the American Urological Association will be held at Portland, Oregon, July 1 and 2.

Friday, July 1, there will be a dry clinic in the morning; luncheon at the Heathman, the official hotel; in the afternoon, papers. A banquet and entertainment at the University Club will be held in the evening.

Saturday, July 2, papers in the morning; luncheon, including the ladies. In the afternoon, a motor trip up the Columbia River Highway; and in the evening, a barbecue, including the ladies, is programmed. Fishing and horseback trips will also be provided. All members of the society will be invited to attend.

Pan-American Medical Association.—More than three years ago, the Pan-American Medical Association was founded in Cuba for the purpose of promoting more intimate relations among the physicians and surgeons of the Western Hemisphere. Its object is to extend hospitality to visiting physicians and surgeons in the various countries making up the Americas. Its purpose is to develop friendship; to advance medical knowledge in the Western Hemisphere; to interchange doctors for the purpose of presenting medical courses; to hold meetings in different countries; to exchange medical literature; to disseminate information regarding scientific investigations and our common public health interests; to create an international lending library and to develop inter-American medical literature by means of official publications. The official languages of the association are Spanish, French, Portuguese, and English.

The association was founded in Cuba some three years ago and since then meetings have been held in Cuba, Panama, and Mexico City. The next annual congress will be held in the United States, either in New Orleans, Dallas, or in San Francisco. The seat of the association must be in the Western Hemisphere and the main office is located in the country in which the president of the association resides. At the present time the headquarters of the association are in Cuba, as Dr. F. M. Fernandez, its president, and Dr. J. E. Lopez-Silvero, its secretary, are both citizens of Havana, Cuba. Dr. Conrad Berins of New York is treasurer. These officers were elected in 1930 and will serve through 1933.

At the last meeting of the association held in Mexico City in July 1931, Doctors Charles P. Mathé, Ralph Soto-Hall, and Leo Eloesser were instructed to form a chapter of the American association in San Francisco. On February 1, 1932, the San Francisco chapter was formed and the following doctors, prominent in public health, in the medical departments of Stanford University and the University of California and in medical circles of the city, were chosen as its charter members to wit:

Charles Mathé, president; Ralph Soto-Hall, secretary-treasurer; E. M. Aldana, Hans Barker, Arthur Bloomfield, Philip King Brown, William Dock, Leo Eloesser, John Gallwey, J. C. Geiger, William Lucas, Howard Naffziger, William Ophüls, Langley Porter, Isaac Monteleagre, Consul of Nicaragua; G. J. Valenzuela, Vice-Consul of Costa Rica.

Recently new chapters have been formed in Milwaukee, Wisconsin, in Caracas, Venezuela, and in Atlanta, Georgia. Chapters are soon to be formed in Los Angeles and in Seattle. The first meeting of the association was held on March 26, 1932, in the Colonial Ballroom of the St. Francis Hotel at which Dr. T. Davis, well-known urological authority of the Crowell Urological Clinic of Greenville, South Carolina, will talk on "Transurethral Correction of Prostatic Obstruction." This subject of the endovesical method of electrically relieving prostatism in the closed bladder will be of great interest, as it has attracted considerable attention and is now being given serious consideration by the urologists and surgeons the world over.

Membership is open to the members of the San Francisco medical profession of ethical standing and ability.

Honor Conferred on Sir Henry Wellcome.—The *British Medical Journal* (London) contains the announcement that at a meeting of the Council of Royal College of Surgeons of England, Lord Moynihan, president, in the chair, the Right Hon. Lord Dawson of Penn, P. C., G. C., V. O., K. C. B., K. C. M. G., physician to His Majesty the King, and president of the Royal College of Physicians of London, and Sir Henry Wellcome, LL. D., F. S. A., founder of the Wellcome Research Institution, were elected Honorary Fellows of the Royal College of Surgeons.

The Royal College of Surgeons of England is one of the most exclusive scientific bodies in England, and the bestowal of this honor on Sir Henry Wellcome is very exceptional in that aside from members of the royal family, Sir Henry is the second person not holding a medical degree upon whom this rare distinction has been conferred, the first and only other recipient being the famous field marshal, Lord Roberts of Kandahar.

Sir Henry Wellcome is of American birth and is well known for his world-wide scientific work and extensive pioneer researches in connection with tropical diseases, including the founding of the Wellcome Tropical Research Laboratories at Khartoum, on the Upper Nile regions of the Sudan, Africa. He is also a director of the Gorgas Memorial Institute, Washington, D. C., with its Tropical Research Laboratories at Panama.

MEDICO-LEGAL

CALIFORNIA SUPERIOR COURT APPELLATE DEPARTMENT DECISION REGARDING CHIROPRACTORS

The Los Angeles *Daily Journal*, a newspaper devoted to the publication of legal decisions and notices, in its issue of March 28, 1932, under a black block letter caption, "Medical Board Has No Chiropractic Control," printed the interesting decision which is given below. It is here reprinted for its informative value to the readers of *CALIFORNIA AND WESTERN MEDICINE*. It is interesting as showing that in the interpretation of laws, the courts are not prone to go beyond legal precedents. If the people through initiative vote commit an error from the standpoint of the state's best policy or interests, then such error, according to the courts, must be rectified by vote of the people and not by vote of the legislature. Creating thus a situation good or bad, according to principles and results at stake. The decision was written by Associate Appellate Judge Shaw and concurred in by Presiding Appellate Judge McLucas and Associate Judge Bishop. The opinion follows:

"Chiropractors are not required to hold a license from the State Board of Medical Examiners and cannot be prosecuted under the State Medical Practice Act for misuse of the prefix 'Dr.', according to a decision just rendered by the Superior Court Appellate Department in granting a new trial in the Municipal Court to W. I. Schuster, a licensed chiropractor.

"'Appellant being a licensed chiropractor,' said the appellate opinion, 'could not be prosecuted under the Medical Practice Act for any misuse of the prefix "Dr.", but must be prosecuted therefor under the Chiropractic Act if at all.'

"If a chiropractor is charged with advertising and holding himself out as practicing a system for the treatment of the sick and afflicted without having a license from the State Board of Medical Examiners, or in fewer words, with practicing healing arts without a license from the medical board, he may establish a defense by showing that the treatments he offered were a part of the practice of chiropractic, according to the Appellate Department.

"The defendant was charged with a misdemeanor in one count, that he violated section 17 of the Medical Practice Act in that he 'did wilfully and unlawfully (1) use the prefix "Dr." (2) advertise and hold himself out as practicing a system and mode of treating the sick and afflicted without then and there having a valid unrevoked certificate or license from the Board of Medical Examiners of the State of California so to do.'

"Associate Judge Shaw, who delivered the opinion, pointed out that the Medical Practice Act of 1913 was the sole medium for regulating the healing arts in California until 1922, when the people adopted an initiative measure, the Chiropractic Act, regulating chiropractic and setting up a State Board of Chiropractic Examiners.

"In 1929 Section 17 of the Medical Practice Act was amended to provide that persons practicing healing arts, or attempting to practice them, or advertising or holding themselves out to that end without holding a license from the Board of Medical Examiners, would be guilty of a misdemeanor. It was also provided that persons using the prefix 'Dr.', the word 'doctor' or the letters 'M. D.' indicating practice under the Medical Practice Act or any other act, without having a license from the Board of Medical Examiners, would be guilty of a misdemeanor.

"In holding these provisions do not apply to chiropractors, the Appellate Department pointed out that the Chiropractic Act regulates the use of the prefix 'Dr.' by chiropractors, requiring them to use after their names when 'Dr.' is prefixed the letters 'D. C.', the word 'chiropractor' or other appropriate designation of their profession.

"Attention was also called to the fact that the Chiropractic Act repealed those provisions of the Medical Practice Act with which it conflicted and it was declared that the authority attempted to be set up in the 1923 amendment of the Medical Practice Act could have no bearing because, being a legislative enactment, it could not obtain as against an initiative measure such as the chiropractic law.

"The opinion was concurred in by Presiding Judge McLucas and Associate Judge Bishop."

A PLEA FOR DOCTORS

BEING A TRIBUTE FROM A LAYMAN

Many of the pamphleteers who write for the lay press of America have taken much pleasure in the last several years in pointing out the deficiencies in medical practice. The ignorance displayed in some of the said articles has been little less than pathetic. Unfortunately, a considerable amount of the stuff has been absorbed by many of the unthinking laity as legitimate and warranted criticism.

It was with keen interest, therefore, that the editor read the article below, "A Plea for Doctors," by Peter B. Kyne, which was printed as one of the feature articles in the Hearst newspapers of April 4, 1932. It is hoped that all members of the California Medical Association will give themselves the pleasure of reading Kyne's tribute to the medical profession, which follows:

"Some of my doctor friends tell me that during these dark days they aren't as busy as they used to be. People cannot afford to be sick; withering of the bank roll has denied them the joys of ill health, and those who do become ill get up out of the sickbeds promptly and start hustling a living. Surgeons are just as busy as they ever were, but neither internal medicine men nor surgeons are making the money they used to make and aren't collecting very much of what they earn. It is a rare thing for a doctor to sue one for his bill, for to a very great extent physicians are a soft-hearted, sympathetic lot, and if a patient cannot pay his bill they never bother him very much about it, or else make their fee so reasonable that none but those lost to a sense of shame will evade payment of it.

"Once I heard a very rich man scream in agony because a noted surgeon had charged him a thousand dollars for removing his appendix. Now this man knew he could afford the best and he wanted the best and got it. He would have been afraid to entrust his fat person to a doctor who would have done, perhaps, a job equally good for a hundred dollars. Yes, he wanted the best, but after he had had the best he graded it with the mediocre—as far as remuneration was concerned. He submitted to that operation, feeling perfectly secure and serene because he knew he was in unusually skillful hands and he forgot such skill and such a reputation for skill had not been acquired save by long years of apprenticeship, during which thousands of appendixes had been removed without charge. He forgot that his life was worth more to the community than that of a charity patient and he refused to pay the bill without indulging in a disgusting tirade and pleading poverty and oppression. People forget that the doctor, like the concert singer, may not adhere to one price; that the rich patient must bear the responsibility of the rich and the strong to society's general health by taking up the slack of the doctor's support where the poor and weak fail.

"The true physician has in him a Christ-like quality. He has a vast sympathy for sick people, a vast pity for the poor and the helpless. So he is imposed upon, for most human beings are alert to note quick and unstinted sympathy and are not at all averse to trading upon it. And the doctor, who knows human beings so much better than they know themselves, is, somehow, neither shocked, distressed nor made bitter by evidences of ingratitude. . . . I knew a fairly prosperous man who for years had suffered from a disgusting skin disease. A clever gastro-enterologist got hold of him, cleaned up his wretched internal mechanism and lo! the skin lesion disappeared. The patient was under daily treatment for two months and how he did scream when the doctor sent him a bill for \$250. He paid under protest, but he had his revenge. He wouldn't give his trade to such a bandit in the future, so his skin lesion returned because he neglected himself, and he started his weary round of the doctors who had failed to cure him in bygone years. It was a comfort to me to know that he never ceased to itch until he found himself entirely surrounded by German silver handles.

"Few persons realize how hard-earned is the doctor's competence, which, nine times out of ten, is surprisingly modest. He is the last relic of civilized slavery. . . . He goes to the theater, telling himself he shouldn't because Old Lady Gazookis is in the hospital and she's just the sort to whom a minor gas pain will mean a capital operation. So the doctor leaves his seat number and name at the box office and in the middle of the second act an usher comes and whispers that the doctor is wanted on the telephone. And it's Old Lady Gazookis! If a doctor is a proprietor of a half decent practice he seldom eats a meal in peace, and in his middle years, what with hastily eaten meals and broken rest and overwork he surrenders to angina pectoris, the scourge of the medical profession, and a youthful hopeful steps into his practice and goes the same route in the fullness of time.

"Doctors and army and navy officers have in them something of the same holy zeal of a monk. Their professions call for a renunciation of worldly wealth and place; they work for the joy of the job and get little thanks and much criticism for it and are never really appreciated until a grave emergency arises. I am much in favor of doctors. The only one I never liked was an army medico who got a private by the name of Kyne mixed up with another private by the name of Klein, and slipped Kyne three large beakers of Epsom salts intended for Klein. At that the poor doctor was terribly sorry and I suppose Kyne would have forgiven him if he hadn't been suffering from tropical dysentery at the time. Some sentimentalists (I suspect he was a florist) invented Mother's Day. I believe we ought to have Doctor's Day, and on that day send in our checks for all we owe our doctor in cash and try to express something of what we owe him for the things that money can never buy."

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL

Vol. V, No. 5, May 1907

From some editorial notes:

Our New Rulers.—The House of Delegates, at the Del Monte meeting, elected the following officers for the ensuing year: President, George H. Evans, San Francisco; first vice-president, J. A. McKee, Sacramento; second vice-president, Jno. C. King, Banning; secretary, Philip Mills Jones, San Francisco. . . . The president has appointed on the Pure Food Committee F. C. E. Mattison, chairman, and George H. Kress, Stanley Black, R. L. Porter and W. F. Snow. The next place of meeting is to be Coronado.

. . . At the recent meeting of the State Society, the House of Delegates passed some resolutions authorizing very important undertakings. . . .

. . . Closely associated with this is the appointment of a Committee on Pure Food Control. This committee is to coöperate with similar committees to be organized in the various counties and had its origin in Los Angeles, when a committee of this sort has been working to better the milk supply. It was found easy to control the milk produced in the county, but little could be done to prevent the income of exceedingly dirty milk from adjoining counties. This is but one of the many things about which the public needs education from our profession and it is partly the work of these committees to see that the work of enlightenment is systematized and carried out. . . .

Worked Again?—When the office of a sure-thing operator of New York was raided, some few years ago, enormous quantities of letters from doctors, lawyers and parsons were found. The detective who had charge of the raid is said to have stated as his opinion that parsons and physicians were about the "easiest suckers" of all, to work. It would seem so. The state journal and the *Journal of the American Medical Association* have for some time been calling attention to specific instances of "working" the medical profession by nostrum men of sorts. . . .

* This column strives to mirror the work and aims of colleagues who bore the brunt of state society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

Educate the Public.—The example set by two or three of our county societies should not be ignored by the others; all should make an effort to arrange meetings between the medical societies and the bar associations, ministerial associations and prominent citizens of all classes generally. Nor should such meetings ignore the commercial side of our profession. If the laity once comes to realize that to be an up-to-date physician is not an inexpensive matter, there will be a better appreciation of decent fees. A poorly paid doctor is generally not a good doctor, for he cannot keep himself supplied with current literature nor provide the required armamentarium; and every patient is entitled to and should receive the services of a good average up-to-date physician. . . .

From an Article: "Annual Address of the President" by R. F. Rooney, M. D., Auburn.—Ladies and gentlemen and members of the Medical Society of the State of California: Owing to a slight unpleasantness—duration, forty-five seconds—which occurred in San Francisco one year ago, followed by the disastrous fire, it again becomes my pleasant duty to preside over this august body, in annual session assembled. I am an accident in this chair at this meeting, holding the unique position of president for the second consecutive year. This was neither your fault nor mine, so no comment is needed—merely remarking that it was due to "circumstances over which we had no control." Under these conditions, being the "accident" that I am, I do not intend to inflict upon you a long address. But you need not sigh with satisfaction at this statement, as I cannot let you escape entirely free.

I feel it incumbent upon me at this time to enter a little into detail concerning the catastrophe which so quickly ended our meeting one year ago, and to note such things as may prove of interest to you. . . .

On the 17th day of April, one year ago, we met in the city of San Francisco, in the Young Men's Christian Association Hall, for our annual session. . . . We anticipated a rich treat, both scientifically and socially. . . .

We retired to our beds in peace and quiet, and at 5:15 the next morning were shaken out of our beds, and our belief in the stability of our Mother Earth, by the great earthquake which directly and indirectly wrought such ruin and havoc in San Francisco. . . .

And here, as president of the Medical Society of the State of California, and on behalf of its members, I wish to record my deep gratitude to all our medical brethren, wherever they may dwell, who stretched out helping hands to the unfortunate of our brethren in the city of San Francisco at their time of need. Thanks to this timely aid and their own pluck, nearly every medical man in the city is upon his feet again.

From an Article on "Thirty-seventh Annual Meeting of the Medical Society of the State of California—Minutes of the House of Delegates."—The House of Delegates was called to order April 16, 1907, 8:45 p. m., by the president, Dr. R. F. Rooney. . . .

Report of Executive Committee

(6) **Medical Register.**—Recommends that, for the present, the Register be issued as a supplement to the journal and of the same size and form, at the usual time of publication. (On motion this section was adopted as read.) . . .

Report of the Council

Mr. President and Delegates: The loss to the Society by the fire of last April was very serious, exceeding \$3000. The actual financial loss, however, was by no means the most serious, as all of the records of the Society, with the exception of the minutes of the Council and the account books, contracts and vouchers, were destroyed. Up to the present time these

records have been but partly re-established, as the expense of reconstructing the card file of physicians is one that the Council has not felt that the Society could yet afford. The work should be undertaken at the earliest possible time.

Donations from Los Angeles, \$913; King County, Washington, \$106, and Marin County, \$25, were received by the Council for the State Society, and the thanks of the Council were extended to the donors. This assistance aided very materially in carrying on the work of the Society until the end of the year, when the income for 1907 began to come in.

In March, after the passage and approval of the new law governing the practice of medicine in this state, and the State Board of Medical Examiners requested the Council to designate the ten nominees from which list the governor was to appoint five to act upon the Board of Medical Examiners. . . .

Organization.—Probably the most valuable work which has ever been undertaken by our State Society is the active organization of the physicians in our state. . . .

Your Council believes most thoroughly that if this line of work be continued, if some member of this Society visit all the county societies in the state where public meetings may be arranged and where questions of vital public interest may be presented, not alone to physicians, but to prominent citizens, a vastly different feeling toward our profession will be brought about, and that our efforts in securing public health legislation and improved sanitary conditions will be greatly aided. Nor is this work of benefit to the public alone. . . .

From an Article on "A Report of the First Two Hundred Confinements at the San Francisco Maternity," by Alfred Baker Spalding, M. D., San Francisco.—Before the opening of the San Francisco Maternity, the medical students of San Francisco received an incomplete training in practical obstetrics, that important branch of medicine which so often forms the basis of their future practice. . . .

From an Article on "A Case of Poisoning by Small Doses of Atropin," by Henry Walter Gibbons, M. D., San Francisco.—Cases of poisoning by atropin are not very uncommon; but, as there are several points of interest in the following case, it might be of interest to report it.

Board of Examiners.—The governor has appointed the following as members of the State Board of Medical Examiners: Regulars, Doctors Cochran, Reinhardt, Mattison, James and Pope; Eclectics, Dougall and Mason; Homeopaths, Barnard and Tisdale; Osteopaths, Tasker and Sisson.

DEPARTMENT OF PUBLIC HEALTH

By GILES S. PORTER, M. D.

Director

Rabies Situation Becomes More Serious.—During the past few weeks rabies has become an important problem in several communities of California, chiefly Fresno, Merced, Tulare, Contra Costa and Imperial counties. The disease continues to be an acute problem in southern California counties, where it has maintained a stronghold for several years. Acute outbreaks in Fresno, Imperial, Contra Costa, Merced and Tulare counties during the past few weeks, however, have made the establishment of intensive control measures necessary in order that the spread of the disease may be checked. Since the touring season

is just beginning, it is highly important that stray dogs everywhere in California be placed in restraint. With the movement of dogs from place to place, that always occurs during the touring season of the year, there is imminent danger that the disease may be introduced into communities which have been relatively free of the disease for long periods of time.

In those counties where outbreaks of rabies have occurred suddenly within the past few weeks, Dr. Giles S. Porter, Director of the State Department of Public Health, has instructed the health officers concerned to proceed immediately under Section 13, Rule 2, of the Public Health Act, taking such measures as may be necessary to bring the disease under control. In Merced County, where a human death from rabies occurred on March 3, regulations were placed in effect beginning March 12, 1932.

San Diego Food Handlers to Be Examined.—The City Council of San Diego on March 16 adopted an ordinance by which physical examination of all persons engaged in purveying foodstuffs to the general public is made mandatory. This measure prescribes sanitary methods of handling foodstuffs and provides penalties for failure to cooperate in safeguarding the public health. Pasadena has enforced a similar ordinance for many years.

Prevention and Control of Venereal Diseases.—Slightly more than 250,000 cases of syphilis and more than 150,000 cases of gonorrhea were reported to the United States Public Health Service by the health officers of forty-three states during the last fiscal year. The Surgeon General states that these diseases, as a class, continued to exceed the number of cases reported during the year of any other single communicable disease, with the exception of measles. An increasing number of requests is received for infected mosquitoes to be used in the malaria treatment of general paralysis of the insane. This method of treatment is now generally considered the most effective known treatment for this disease. Further studies of the treatment of paresis through inoculation of malaria are being undertaken with various institutions where this method of treatment is used. Increasing importance is being attached to the early diagnosis and treatment of syphilis. The possibility of extending to rural and remote districts the advantage to be derived from early diagnosis by means of microscopic examination has been carefully studied and a method for providing such service has already been put into operation by at least one state health department. The importance of venereal disease control cannot be denied and the increased efficiency in securing reports of cases would indicate that definite control measures are being applied more widely than heretofore.

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA

By CHARLES B. PINKHAM, M. D.

Secretary

Results of the Los Angeles, February, 1932, Examination

The Board of Medical Examiners of the State of California has reported results of the written examination held in Los Angeles, February 1 to 4, 1932. The examination covered nine subjects, and included ninety questions for physician and surgeon applicants. An average of 75 per cent is required to pass. An allowance of one per cent added to the general average is allowed by the Medical Practice Act for each year of medical practice under a license granted elsewhere than in California, provided the applicant has not fallen below 60 per cent in more than one subject.

The greater number of examinees were graduates of extra-state medical schools, including Canada, Germany, Austria, Roumania, and Russia.

Eighty-four per cent of the graduates of medical schools passed the examination.

The following is a list of the successful applicants for licenses as M. D. physicians and surgeons:

Samuel Donald Aiken, University of Nebraska, 1930.
Elam De Mar Anderson, Northwestern, 1931.
Franklin I. Ball, University of Oregon, 1931.
Louis Clive Bennett, University of Iowa, 1931.
Harry H. Blond, McGill University, 1931.
Potter Bowman, Ludwig-Maximilian's University, Munich, Germany, 1931.
Robert Stultz Brua, Washington University, 1931.
George Treble Burke, McGill University, 1931.
Tenorio Danny Caruso, St. Louis University, 1931.
Clarence Phelps Custer, University of Colorado, 1929.
Jesse Dorickson Cook, Rush, 1913.
Abbey Max Dodd, Baylor, 1930.
Daniel Snell Egbert, University of Nebraska, 1931.
Oscar Melville Elkins, University of Wisconsin, 1930.
Dwight Hair Findley, University of Oregon, 1931.
William Porter Forcade, University of Nebraska, 1930.
John Anton Goeke, St. Louis University, 1931.
Gilbert Otto Gronhovi, Rush, 1931.
Joseph Joshua Jacobs, Temple University, 1931.
Evelyn Ross Jenney, Northwestern, 1931.
Irving Louis Josephs, Yale, 1930.
Irwin Frank Kehr, Johns Hopkins, 1930.
Irving Willmer Kellogg, College of Medical Evangelists, 1931.
George C. Kelso, University of Minnesota, 1931.
Isaac Newton Kendall, Northwestern, 1930.
John Thomas Klausner, Northwestern, 1931.
George Landegger, University of Vienna, Austria, 1926.
Emmert Carl Lentz, Ohio State University, 1931.
Benjamin Maurice Lieberman, Tulane, 1931.
James Vernon Luck, St. Louis University, 1931.
Charlotte Elizabeth Mahaffy, University of Alberta, Canada, 1931.
Donald Knox Matthews, University of Cincinnati, 1931.
Benjamin Franklin Miller, University of Tennessee, 1931.
Haig Mitchell, Washington University, 1929.
James Wilber Moreland, University of Illinois, 1931.
Justin Wallace Neighbor, University of Michigan, 1930.
Henry Roger Nesburn, Tufts, 1931.
Edward Choate Pallette, Harvard, 1929.
Seymour Joseph Rosenberg, George Washington University, 1931.
Carl Oliver Rydholm, Northwestern, 1931.
Hannibal Cecil Shepherd, College of Medical Evangelists, 1931.
Karl Leopold Sieberman, University of Michigan, 1931.
Edith G. Simpson, M. D., University of Michigan, 1931.
Charles Fay Steiss, St. Louis University, 1931.
Burr Jessell Van Doren, Northwestern, 1931.
Karl Otto Von Hagen, Northwestern, 1931.
James I. Wargin, Rush, 1930.
Llewellyn E. Watke, Creighton, 1931.
Thad John Whalen, St. Louis University, 1931.
Clarence Harold White, University of Iowa, 1931.
Robert Goodwin Wilbur, University of Oregon, 1931.
Isaac Edward Wolfson, University of Cincinnati, 1931.
Leonard Dexter Wood, Columbia University College of Physicians and Surgeons, 1931.
Boris Zemsky, University of Cincinnati, 1931.

The following colleges were represented:

	PASSED	Year of Graduation	Per Cent
Baylor	1930	82 6/9	
College of Medical Evangelists	1931	81 4/9, 77 3/9	
Columbia University College of Physicians and Surgeons	1931	79 2/9	
Creighton	1931	75 1/9	
George Washington University	1931	86 8/9	
Harvard	1929	77 6/9	
Johns Hopkins	1930	83 7/9	
Ludwig-Maximilian's University, Munich, Germany	1931	75 1/9	
McGill University Faculty of Medicine, Canada	1931	89 5/9, 84 80 7/9	
Northwestern	1930	82 5/9, 83 5/9	
	1931	82 3/9, 81 4/9	
		86 6/9, 77 5/9	
Ohio State University	1931	83 6/9	
Rush	1913	75 7/9, 12% yrs. practice	
		—87 7/9	
	1930	82 3/9	
	1931	83 3/9	
St. Louis University	1931	79 3/9, 76 3/9	
		86, 83 4/9, 83 8/9	
Temple University	1931	77 2/9	
Tufts	1931	82 6/9	
Tulane	1931	85 4/9	
University of Alberta, Canada	1931	82 2/9	
University of Cincinnati	1931	85 1/9, 81 2/9	
		85 8/9	

College	Year of Graduation	Per Cent
University of Colorado.....	1929	79 5/9
University of Illinois.....	1931	82 8/9
University of Iowa.....	1931	81 3/9, 85 3/9
University of Michigan.....	1930	84 3/9
University of Minnesota.....	1931	88, 84 2/9
University of Nebraska.....	1931	81 5/9
University of Oregon.....	1930	82 7/9, 87 3/9
University of Tennessee.....	1931	84 5/9
University of Vienna, Austria.....	1931	82 8/9, 79 2/9
University of Wisconsin.....	1931	84 7/9
Washington University.....	1931	85 4/9
Yale.....	1930	75 7/9
		81 6/9
		81 6/9
		76 6/9
		84 7/9
		84 8/9
FAILED		
Boston University.....	1931	71
Loyola University.....	1925	65 5/9
Psycho-Neurological Institute Medical College, Petrograd, Russia.....	1917	5 1/9
University of Bucarest School of Medicine, Roumania.....	1921	61 6/9
University of Illinois.....	1931	70
University of Iowa.....	1930	74 6/9

News Items, May 1932

A recent letter received from the Texas Board of Medical Examiners related that as a result of the pamphlet written by the secretary of the California Board of Medical Examiners, entitled "Eyesight Swindlers," several of this ilk had been arrested in that state. The letter further stated that Frank W. Faircloth (convicted in Fresno in 1926 as an eyesight swindler and fined \$600) was recently arrested in Texas. He was then returned to California by extradition. The letter also requested the secretary of the California Board to send to the Texas Board the exhibit displayed by the California Board at the 1931 State Fair, so that said exhibit might be displayed at the annual meeting of the Texas Medical Association to be held in Waco May 4 to 6, inclusive (Former entries CALIFORNIA AND WESTERN MEDICINE, February and March, 1926; September, 1930).

"Details of the purported bunko eye doctor game, which has interested the State Board of Medical Examiners for some time, were related in connection with an extradition approved by the governor's office today, for the return of Frank W. Faircloth from Houston, Texas, to Los Angeles, to answer grand theft charges. The extradition was granted on the strength of an affidavit filed by Anna C. Wellensick, who operates a ranch near Covina. She stated two men, introducing themselves as 'Doctor Warrington' and 'Doctor Young' visited her home February 4, 1930, and convinced her they could improve her sight with some medicine they dropped into her eyes and with the aid of a special 'radium belt' she did not receive. She said she drew \$1200 from the bank and gave it to the 'doctors' with a \$1000 bond after their treatment. She stated the men disappeared when she complained her sight had not been improved. She identified Faircloth as 'Doctor Young'." (Los Angeles Times, April 8, 1932).

A news item published in the San Francisco Examiner of April 19, 1932, relates that the Hudson County (New Jersey) Medical Society started publication of various advertisements for the purpose of protecting the public against the practice of irresponsible and unscrupulous practitioners of the healing art. The first contains the names of all of the society's 450 members, listed alphabetically and by municipalities. Subsequent articles will explain some of the services of the society.

"The removal of the entire State Board of Chiropractic Examiners on the ground all of the members lack the educational requirements to practice their profession in California is asked in *quo warranto* proceedings filed in Los Angeles today by Attorney-General U. S. Webb on complaint of Calvin E. Miller, a taxpayer . . ." (Sacramento Bee, April 4, 1932.)

"Payment of a \$1100 fine today saved Dr. William E. Glaeser, San Francisco physician, from a year in jail. Doctor Glaeser had pleaded guilty to a charge of violation of the Veterans' Compensation Act before Judge A. F. St. Sure, and a plea of leniency had been made for him by United States Attorney George Hatfield, who stated that the doctor had assisted the government in trapping several other men in the case. Despite this, the Judge sentenced the doctor to a fine of \$1000 and a year in jail. Later the Judge announced that if the doctor would pay \$1100, the amount obtained by the veteran in the case, he would suspend the jail sentence. Shortly after this the fine was paid and the doctor released from custody. 'I cannot make light of this case,' the Judge declared in passing sentence. 'This seems to be becoming a far-flung racket. It was said the doctor signed this examination blank to aid a friend. Would the doctor rob a bank to help a friend? This was robbing the government. The veteran in the case might have obtained \$10,000 he was not entitled to'." (San Francisco Call-Bulletin, April 17, 1932).

"Two East Bay doctors were each sent to the county jail for one year by Federal Judge Louderback when their probation pleas failed after they had pleaded guilty to veterans' frauds. The defendants were Dr. F. H. Van Tassell, fifty-three, 5640 Ocean View Drive, and Dr. A. H. Staples, fifty-eight, 5423 Grove Street, both of Oakland. The charges involved making false affidavits of examination of Livermore hospital patients applying for disability compensation. Congress passed a law that veterans developing tuberculosis in 1925 or prior years could procure compensation. The doctors examined several veterans in 1927, but made affidavit that they made the examinations in 1925. Federal authorities say the doctors received from \$100 to \$150 for the affidavits and that a small 'affidavit ring' was in operation. Several minor defendants are to appear for sentence next month. Probation Officer Charles Upton recommended against leniency because both doctors have a record of narcotic prescription irregularities, his report shows" (San Francisco Examiner, March 27, 1932).

"Five physicians and thirteen World War veterans were charged today with conspiracy to violate the Veterans' Compensation Act, according to information filed in Federal Judge Harold Louderback's court. Judge Louderback fixed bail at \$500 each, except in the case of Dr. William Glaeser of 196 Guerrero Street, San Francisco, whose bail was placed at \$1000. The physicians indicted included Dr. George M. Gardner; Dr. J. O. Arnout and Dr. J. Coleman Browne of Stockton; and Dr. Edward Purcell of 532 Fifteenth Street, Oakland. . . . The complaints alleged that the physicians falsely signed affidavits that the veterans contracted tuberculosis prior to 1925. The physicians actually did not examine the veterans until 1928 and 1929, according to Chief Deputy United States Attorney I. M. Peckham" (San Francisco Call-Bulletin, April 5, 1932).

"Disposal of charges against doctors and others named in an indictment for the illicit use of whisky prescriptions involving Harry 'Hardhat' Allen, was completed today when Federal Judge Frank H. Kerrigan imposed a \$50 fine against Dr. Gregory Isakson" (San Francisco News, April 4, 1932.)

"Reversing a former ruling, Attorney-General U. S. Webb today decided chiropractors may sign death certificates without first obtaining approval of a county officer or a doctor of medicine." (Martinez Herald, March 30, 1932.)

"Changing his plea from not guilty to guilty, Dewey Conway, arrested with his father, W. J. Conway (now

deceased), on a charge of practicing medicine without a license, was fined \$200 by Justice of the Peace L. E. Newton, Tuesday, at Chico . . ." (*Orland Register*, March 18, 1932).

"A request for issuance of a duplicate medical license to a doctor who died two years ago was under investigation by the State Board of Medical Examiners yesterday. . . . The request for a duplicate license came in a telegram delivered on March 15. Signed 'Dr. J. C. Gaxiola,' it was asserted that the doctor's original certificate had been burned and asked for a new one. It offered to pay two years' delinquent registration fees. Dr. C. B. Pinkham, secretary of the board, immediately began an investigation. He said an investigator went to the address, 708 Parkman Avenue, Hollywood. He found Count Von Hapsburg there. The Count denied all knowledge of the telegram and asserted that a man he knew as Doctor Gaxiola had been living with him, but had gone to Mexico recently" (*San Francisco Examiner*, March 26, 1932).

A certificate found hanging on the walls of a licensed chiropractor, recently charged with violation of the Medical Practice Act, certified that said chiropractor had "attended Black's College of Anatomical Science," the certificate being dated Fort Wayne, Indiana, June 8, 1927, signed "M. J. Black, M. D., D. C., etc." The authorities of the State of Indiana report that after a thorough investigation they fail to find anyone by the name of M. J. Black, M. D., or any such institution as "Black's College of Anatomical Science," as ever having existed at Fort Wayne, Indiana. The chiropractor in question stated he attended this course of lectures in San Diego. This is a fair sample of the value of many diplomas, certificates, etc., claimed by those whose newspaper advertising shows various alleged degrees appended to their names.

Dr. Charles J. Dean, said to be owner of the Dean Colon and Rectal Clinic, Kearney and Market streets, San Francisco, as well as clinics in other Pacific Coast cities, has been cited to appear before the Board of Medical Examiners in San Francisco, July 12, 1932, to show cause why his license should not be revoked, based upon his conviction in Portland, Oregon, 1930, "of violating the National Bankruptcy Act." He is now said to be an inmate of the federal penitentiary at McNeil Island.

According to reports, Stanley Kimbro, found guilty in the Los Angeles Municipal Court of a charge of violation of the Medical Practice Act, was on March 9 denied a new trial and sentenced to serve seventy-five days in the city jail or pay a fine of \$150. Oral notice of appeal was filed.

Attention of the Board of Medical Examiners has recently been called to an advertisement appearing in a Los Angeles daily paper of March 27, 1932, noting that the "National University of Kiropathic Physicians and Surgeons," 1126 West Vermont Avenue, will give courses in chiropractic and chiropody to nurses, beauty operators, masseurs, optometrists, and barbers. According to reports, this "university" is operated by J. C. Cowle, mentioned in "News Items" of July and September, 1929; also, October, 1931.

Reports relate that E. O. Tilbourne in the Justice Court of Pasadena on March 17, 1932, pleaded guilty to a charge of violation of the Medical Practice Act and was sentenced to serve 180 days in the county jail, sentence being suspended for one year on condition that he no further violate the provisions of the Medical Practice Act. (Former entry, "News Items," February, March, and July, 1927.)

Allen P. King, licensed chiropractor of San Luis Obispo, is reported as having pleaded guilty on March 23, 1932, to a charge of violation of the Medical Practice Act and was sentenced to pay a fine of \$50, the sentence being suspended on condition that he change his advertising.

Rheumatic Heart Disease.—At a recent meeting of the New England Heart Association at the Boston Medical Library, rheumatic heart disease was the subject for discussion. It was pointed out that the nature of the rheumatic process is still obscure, that the clinical recognition of an active rheumatic infection is difficult in many cases, and that the treatment of such infection when it is recognized is unsatisfactory. There was also a complaint expressed that we know little if any more about the disease than was known forty years ago and that a mere change of terminology and nomenclature such as has occurred does not indicate an advance in our knowledge. These are indeed challenges that demand our consideration and action.

A more careful analysis of the subject shows, however, that advances have been made, in the last decade in particular. Vague and general statements published many years ago may now be confirmed or discarded, in part or in whole, as the result of recent more trustworthy and detailed statistical studies; and gradually new facts are being discovered.

Among the newer or more clearly defined knowledge of the rheumatic infection are the following facts or concepts: (1) acute valvular disease may insidiously occur, frequently without any joint symptoms whatsoever, but in just the same form as that found with acute polyarthritis: such endocarditis has been much more frequently overlooked in the past than it is today; (2) there has been a modification of the character of the rheumatic infection during the last generation, in part probably because of the frequent and world-wide use of antirheumatic drugs such as the salicylates; (3) there is a definite relationship between upper respiratory infections, especially with the hemolytic streptococcus, and the occurrence or recurrence of rheumatic endocarditis; years ago the tonsils were almost the sole focus of attention in this respect; (4) climatic conditions are of great importance with respect to the incidence of the rheumatic infection and to the protection of a rheumatic subject against recurrent infection, a tropical climate being strongly protective; this had been hinted at years ago, but not so clearly shown as now; (5) there is a very distinct tendency for the rheumatic infection and rheumatic heart disease to occur in several members of the same family as proved by several analyses in the past ten years, which suggests among other things contagious and predisposing elements; (6) the manifestations of the rheumatic infection are no longer considered to be limited to the heart, pericardium, pleura, joints, and skin, but are known to be widespread throughout the body, even involving arteries, lungs, and peritoneum; and (7) there is more and more evidence that the involvement of the heart and other tissues of the body in the rheumatic infection is an allergic phenomenon and not a response to direct bacterial invasion.

Most important of all, we are no longer content with our lack of knowledge about rheumatism, which has been largely the *laissez faire* attitude in the past, but recognizing this very lack of knowledge, we have pledged ourselves to concentrated study of the subject until we know a great deal more. The recent emphasis on the etiologic diagnosis of cardiovascular disease has been a great stimulus, and with such endeavors as those planned and in progress at the House of the Good Samaritan here in Boston, those of Swift and Coburn in New York, of Paul in New Haven, and of others elsewhere, we can look forward hopefully to the future, expecting that forty years from now our successors may look back to this as a fruitful era in the study of the rheumatic infection and of rheumatic heart disease, which have been such important unsolved medical problems in New England for generations.—*New England Journal of Medicine*, March 3, 1932.